FEBRUARY, 1961

A A T T

The Challenge of Modern Fiber Technology

An exploration of Guidelines to Textile Marketing

Full text of the First Annual Conference of AATT

AMERICAN ASSOCIATION FOR TEXTILE TECHNOLOGY INC.

A special edition of MODERN TEXTILES MAGAZINE

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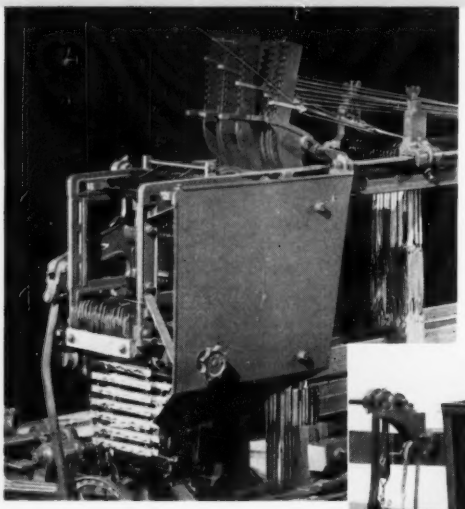

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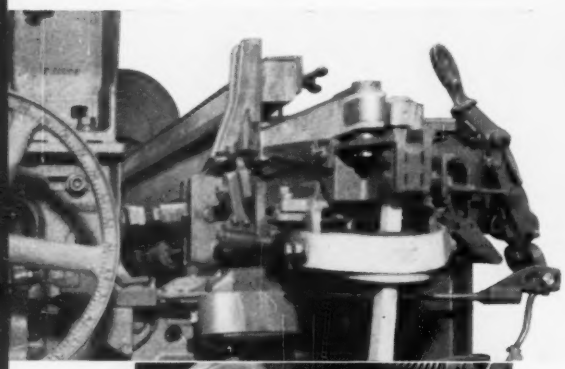

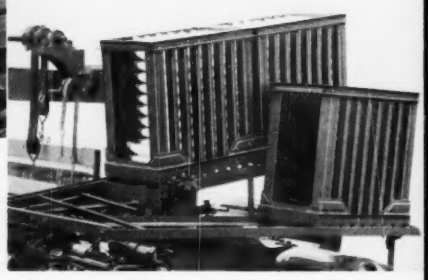

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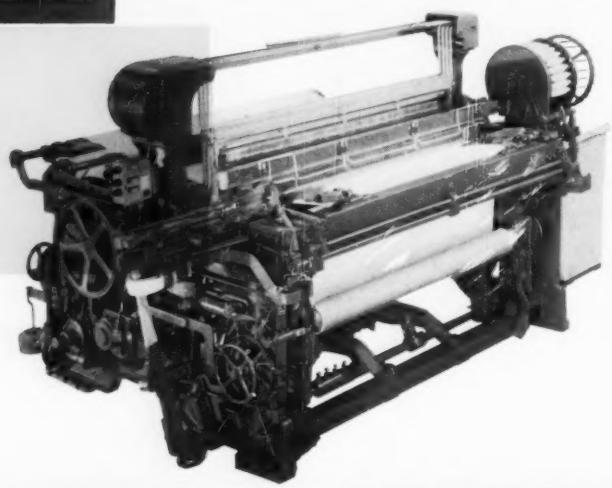

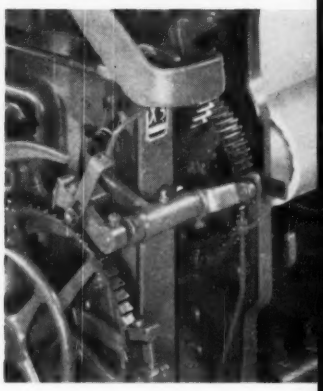

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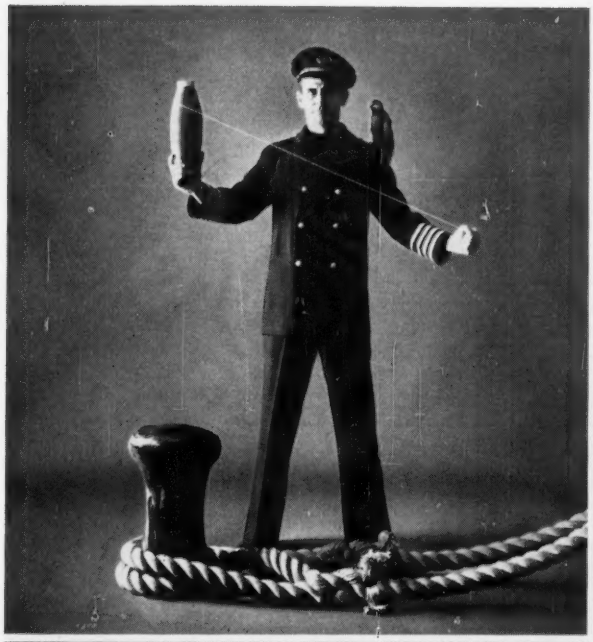

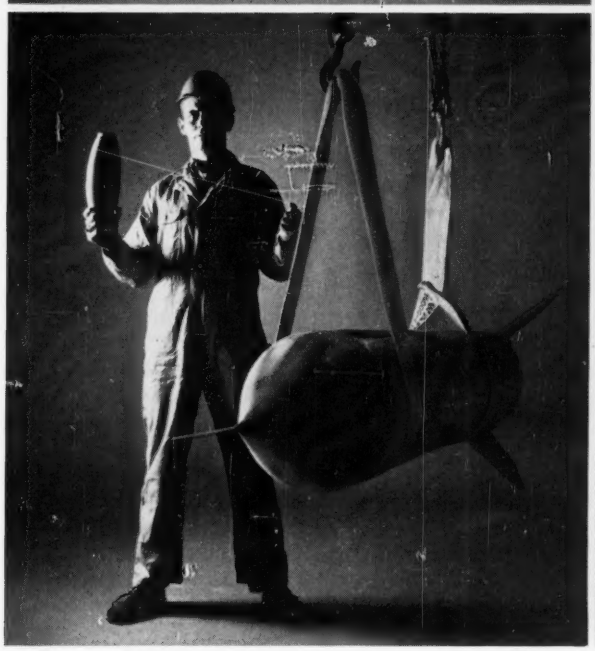

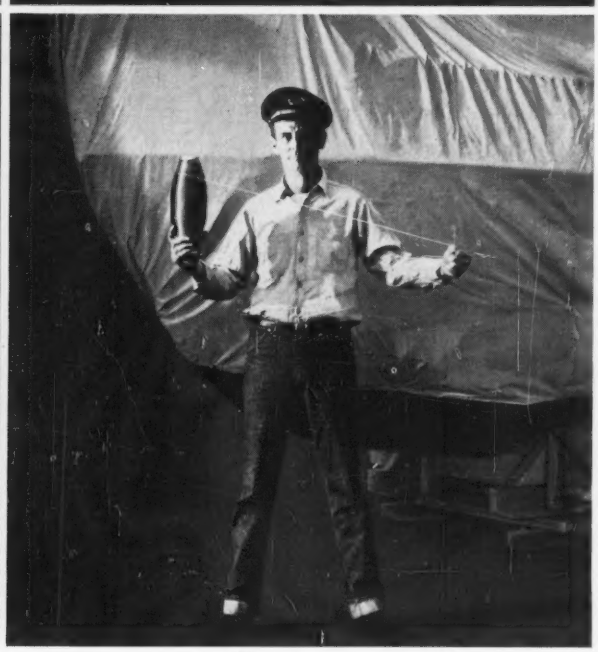

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FIRST ANNUAL CONFERENCE OF AATT **February 8, 1961**

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The challenge of modern fiber technology

K. J. Winter

THE CONFERENCE which AATT conducted under this title on the occasion of its annual meeting last February was very successful. The outstanding speakers, moderators and panel members held the earnest interest and attentiveness of the large audience which included the highest executives of many textile companies, top merchandisers, scientists and educators. The press covered the conference intensively, and there were many requests for publication of the proceedings.

Over the past 27 years, through the enthusiasm and dedication of a growing group of textile technologists, the association has sought to explore the newest frontiers, to challenge the capabilities of the industry's most able men, and to be a source of inspiration and encouragement to its members by providing meaningful presentations of problems and solutions vital to the entire textile industry. That its first annual conference could be considered so significant an event is a tribute to the stature of the association and reflects the fact that it fulfills a real need.

Recently, AATT started to make preparations for the next conference to take place in February, 1962 on a theme of similar importance. It is our plan to establish these conferences on a regular yearly basis as a service not only to our members but to the textile industry as a whole.

On behalf of the association, I would like to extend our most sincere appreciation to the participants in our conference, to the group of loyal and devoted AATT members who worked so hard and so effectively over many weeks to make it a success, particularly Albert E. Johnson, general chairman of the conference, Erb Ditton, C. J. Waitkus, Harry Martin and Andrew Strohm, and last but not least to A. H. McCollough, publisher of Modern Textiles Magazine, whose personal interest and concern for textile industry progress made this publication possible.

K. J. Winter

President
American Association for Textile Technology

Introduction of program and panel moderators

THE TEXTILE TECHNOLOGIST— pathfinder to fabric profits

By A. H. McCollough,
PUBLISHER, MODERN TEXTILES MAGAZINE

IT IS TRULY a great pleasure and a great honor to open this First Annual Conference of the American Association for Textile Technology, Inc. We believe that the caliber of the people on the program and the messages which our speakers have spent so much time in preparing, and the discussions of the questions you submitted to our four panels, will make your attendance worthwhile.

In order that you might get a view of our thinking in planning this meeting, let me state that it was the considered opinion of the officers and those in charge of planning this meeting that the first annual conference should not be another meeting to discuss molecules and fiber characteristics. This we do at our regular monthly meetings at the various chapters and also these subjects are amply covered through programs such as the annual meetings of the Textile Research Institute and other organizations. It was the feeling that the most good could be derived by devoting this conference to the many marketing problems faced in four important areas of distribution in the textile industry. Therefore, we set out to make today's meeting a management conference devoted to the "marketing challenge created through modern fiber technology".

How many of you realize that currently there are over 1,000 fiber trademark names in use throughout the textile industry of the world, and in the United States alone we have approximately 100 fiber trade names? Add to these the number of process trade names for finishes. Is it little wonder that both the consumer and our own industry is in a state of confusion regarding many of the claims that are made today.

It will be our aim in our discussion here to point up the *opportunities for profit* offered to all segments of textile manufacturing through the proper use of the increase in variety of manmade fibers, both whole or in blends with one another, and blends with the natural fibers. And, at the same time we will examine freely and frankly without hesitation or timidity, without resort to excuses or feeble, fearful language the problems presented to our industry by the manmade fibers; the confusions that have arisen not only among customers, but among textile insiders themselves due to the rapid increase in the vast number of manmade fibers available; and in some regrettable cases, due to their misuse in the wrong kind of fabrics and wrong kind of apparel and other end uses.

This will be a forum for truth-telling; for frank and courageous voicing of our hopes; our gratitude for the marvelous ingenuity and patient work, the enormous investment of skill and dollars that went into the development of modern manmade fibers; and, also, it will be a day for speaking out our honest grievances at what we think is wrong with these fibers and the ways in which they are presented to the public.

A. H. McCollough

And, from this day of truth-telling, of frank and searching discussion, we are confident much good will emerge. It is always good for closely-knit segments of a vast industry, bound together in the common effort to make the best textile products that can be made in the hope of earning well-deserved and wholly honorable profits, to speak frankly to each other, freely discussing our respective "problems".

Medical men tell us that resentments too long repressed, barred by fear or motives of self interest or just mere politeness from vigorous expression, will fester inside us and cause all kinds of unsuspected bad results—symptoms of illness which otherwise cannot be explained. Thus, free discussion not only clears the way for new ideas and better understanding of our neighbors' problems; it is also good for our own physical well-being. It is my hope, therefore, that none of you will inhibit your thoughts in these discussions for any reason.

By and large, the problems we will bring out for discussion and examination today are the problems caused *by success.* It is an undisputed fact, which I feel sure that everyone present here will accept, that the manmade fibers, since the first pound of saleable rayon was spun at Marcus Hook a little more than 50 years ago, have been tremendously successful.

These new fibers, first rayon, then acetate, then nylon and in the past ten years the Acrylics, the polyesters, and lately a whole host of new fibers, too many to enumerate, have brought the opportunity to earn great profits, the opportunity for vast growth to the textile industry. It is a fact that these profits *have been realized,* and that this growth *has taken place.*

We at MODERN TEXTILES MAGAZINE, the publication with which I am associated, have reason to know better than most people in textiles how tremendously successful the manmade fibers have been. For more than 30 years, in our monthly issues, we have reported the phenomenal growth of the manmade fiber producing industry. We have reported, in issue after issue, the story of how the textile industry turned toward increasing use of these fibers, until today there is hardly a mill, or a converter, or a garment manufacturer, or a retailer who does not depend upon the marvelous textile properties of these fibers for an important share of profits. We have reported how these fibers have grown from a total consumption in 1930 of 119,300,000 pounds to the staggering figure in 1960 of 1,877,000,000 pounds. (Source: Textile Organon, statistical bulletin of the Textile Economics Bureau)

Thus, if we have nothing else, we have a perspective of years, a perspective of rapid growth and change from which to view this manmade fiber industry. And from this perspective we can see clearly the problems of the industry which you will hear examined in vigorous language today; but, more importantly we believe, we can see the immense opportunities for growth and increased profit for the entire textile industry that the manmade fibers present today, more than they have ever presented in the past despite the great success already achieved by these fibers.

Vast New Horizons through Manmades

We can pass along to you our confident prediction that the manmade fibers present to the textile, and all its allied industries, vast new horizons for business growth and greater serviceability. We can say, if all you Republicans will pardon the term, that the manmade fibers are opening for textiles *new frontiers* for growth, for greater profits and greater achievement.

But these new horizons will not open up for us without effort on our part. We must help by contributing our own confident faith in progress. We must remember that time and events wait for neither men, industries, or companies; we must keep in mind that to stand still is to fail, and that the opposite of failure is progress. And how then, shall we in textiles progress?

Our progress will be assured by vision—a recognition of opportunity, an acceptance of responsibility and a realization of needs and a sure sense of direction for the future.

Our progress will be assured by determination, a devotion to a cause, a dedication to a task, and a willingness to plan and strive and work.

Our progress will be assured by the building of our resources—the tangible means to improve, expand, experiment, innovate and put ideas to work.

In order not to hinder progress, is it not time that we start correcting the most glaring fault in the distributive chain of textile products? This is the tendency to debase performance by selling price rather than quality, under pressure of intense competition. Price pressure from the retailer to have garments meet their pricing brackets, rather than trading up because of quality or performance, flows all the way back through the end-product manufacturer, the converter, and finally to the fabric producer.

The strong sponsored, minimum blend levels, which must be maintained before several of the leading fiber producers will give promotional and advertising support, is currently one of the few check reins in this most vital area.

Importance of Technologist

No one can be long connected with the textile industry without realizing the importance of the technologist, a modest, self-effacing person. These technologists all have need for someone to advertise their virtues just a little.

As you may know, AATT is made up basically of men and women who are trained in the art and science of creating fibers, yarns and fabrics. They are technicians who understand the practical elements of fabric and yarn construction, and artists who know how to put these practical elements together to create fabrics that are not only functionable but beautiful.

To my way of thinking, the textile industry has not fully utilized the unique talents and experience of the textile technologist. If the industry had more fully utilized the know-how, the wisdom and seasoned experience of many of the members of the AATT and others like them, perhaps some of the weaknesses, some of the failures of the manmade fibers you will hear discussed today would not have occurred.

The skills of the the textile technologist are not only needed by our yarn producers when they develop experimental fabrics using manmade fibers, these skills of the technologist could profitably be utilized throughout the entire spectrum of textile manufacturing and distribution. Mills, converters, dyers and finishers, and even garment manufacturers would avoid many costly mistakes if they had styling and fabric development departments as a part of their marketing and management team and relied on these people to translate the functionable properties of manmade fibers and yarns into the profitable fabrics they intend to make and sell to the consumer. And, the mistakes they could thus avoid would be the kind that cost a great deal of money these days. An experienced mill executive told me just yesterday that a mistake in the construction of a cloth these days can cost the mill or converter anywhere from $150,000 and up.

Mistakes Are Costly

It goes without saying that none of us, no matter how big we are, can afford these kind of mistakes. But, even better than the negative value of helping you avoid mistakes, the textile technologist can help to bring out successfully profitable fabrics—fabrics that skillfully combine all the practical values of manmade fibers, such as strength and dimensional stability, with the great appeal of good looks, smartness and high style. These men and women are the living embodiment of the age-old lore of textiles—avail yourself of this lore in designing your new manmade fiber fabrics and you will, I am convinced, profit in a very tangible dollars-and-cents fashion.

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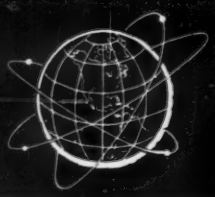

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Introductory talk for Retailing Panel

Modern fibers— THE RETAILER'S VIEW

By P. J. Fynn,
DIRECTOR OF LABORATORIES,
J. C. PENNEY CO., INC.

FROM THE RETAILER'S VIEWPOINT the present situation in the fiber industry is analogous to the folk tale, about the fellow who, a long time ago when salt was a scarce and costly commodity, came into possession of a magic salt mill. This mill bid fair to put its possessor on easy street for life because only he knew the magic words to start and stop it, thereby giving him control of the salt market. All went well and fulfilled his most avaricious dreams until one day he could not remember the magic words to shut it off. Salt poured forth until his home and his town were buried in salt and to rid himself of the menace he cast the mill into the sea where it is producing salt to this day.

The modern chemist discovered super polymers and a way to abundant fibers from non-fibrous raw materials, a feat welcomed by a fiber-hungry war economy. Now, the competition for supremacy in the field will not allow him to stop the mill. Consequently we have new fibers and modified fibers and newly modified fibers until even the chemist has trouble keeping them all straight. Add to this the yarn processes and fabric finishes with contrived names resembling fiber names. Appreciate then the bewilderment of the retailer and his customer!

Changed Methods Urged

All these products together bid for public attention in direct-to-the-consumer advertising which goes over the head, so to speak, or perhaps behind the back of the actual maker of the consumer product. Fiber producers, for instance, who do not even make fabric much less finished consumer goods, appeal to consumers by direct advertising which projects fiber characteristics into end use products often with the thought, expressed or implied, that the presence in sufficient quantity of their particular fiber is some sort of guarantee that the product will perform in a certain way. Certainly, fiber characteristics can be made to carry through into finished articles, but it does not occur automatically by virtue of using a certain brand-name fiber. Proper fiber blending and yarn spinning, proper fabric constructions and weaving techniques, proper cutting and sewing room practices and a whole new concept of findings are between the new fiber and its satisfied consumer.

To exploit the new fiber properties requires changes in methods which means overcoming inertia and tradition in the textile-apparel industry. With the interaction of all these influences, end use articles still appear which fall short of exploiting the full potential of the new fibers.

Perhaps the most spectacular contributions of modern fiber technology to the properties of consumer goods were those of dimensional stability, retention of pre-set shapes, and rapid drying in laundering—the properties that ushered in the era of wash-and-wear. The economic climate was just right for wash-and-wear to catch on—more people were making more money, moving to suburbia, changing their living habits, increasing the variety of garments in their wardrobes, indulging in a do-it-yourself mania and trying to convert the housewife from drudge to a sparkling companion in easy living—so anything that would dispel those wash-day blues and enable the wife to accomplish in a breezy, easy, do-it-yourself way a lot of the old drudgery was just what everyone was looking for.

Home laundry equipment makers and textile manufacturers, spurred on by the makers of the new synthetic fibers who saw their golden opportunity, moved to ride the crest of wash-and-wear. When the women reacted enthusiastically, as reflected in their purchases, everyone in competition for her textile dollar tried to fit his product into the do-it-yourself, no-trouble-to-do-at-home category. Men's suits, women's overcoats, heavy outerwear, rugs, heavy drapes, slipcovers, bedding and other things never previously considered as even washable suddenly became wash-and-wear.

Will It Wash?

Items like this were once designed and constructed primarily to function best for what they were. Now they are designed with washability as the paramount factor and functionality is a secondary consideration. A leading designer of men's suits recently decried the decline in demand for good tailoring. Said he, "Once a tailor thought only of making a suit to enhance the comfort, appearance and prestige of his customer. Who cared about how it was going to be cleaned? That was the problem of the professional cleaner. Now suits aren't tailored, they're cut and sewn like so many pajamas. The only thing that counts is that they come out of a washing machine looking good enough for a good-natured slob to wear to the office."

It has been this precipitate haste to push the use of the new fibers into every application as quickly as possible, to force a way into markets which at times were not the best applications that has given a sort of frenzy to the jostling for position by the new fibers.

There are so many fibers and combinations that even an alert, discriminating consumer in a lifetime of buy-and-try couldn't select the best for his use. He is largely dependent upon what he reads and hears. Although there is a great deal of educational literature from unbiased sources on the market on these matters, tens of millions of consumers will never see it. Their only source of pre-experience knowledge is advertising and informative labels, and even the labels are often written by the fiber maker, or fabric finisher. Add to this state of affairs that, in many cases, between synthetics any distinctions recognizable by

(Continued on page 12)

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Celanese® contemporary fibers

P. J. Fynn

(Continued from page 9)

the consumer are usually subtle, particularly between fibers in the generic groups; all acrylics are much alike as are all polyesters, all rayons, all acetates, etc. There are differences in things like crimp, denier size, dyeability and spinning characteristics; and it is true that, when yarn and fabric makers take advantage of all of these factors, differences of hand and appearance can be created, but end use performance is going to be nearly the same within any fiber family.

The result is that advertising often makes much ado over small differences, magnifying these differences in the consumer's mind to build up a sort of pseudo importance for the product. This gives rise to the "gimmick" approach and the "weasel worded ad". Because big money is spent on fancy ad campaigns in slick paper magazines that are moulders of public opinion, and because garment makers and retailers desire to be on the band wagon and because the whole business is so technical that garment makers and retailers don't know the difference anyway, everybody goes along with the gimmick under the admonition of "don't rock the boat."

The challenge to modern fiber technology lies in facing up to knowledge and experience gained over a good ten years of experimenting with the applications of the new fibers and in making every effort to get the various fibers into end uses for which they are well suited and keeping them out of applications for which they are poorly suited. The challenge falls also onto cutters and garment makers to employ the best techniques for enhancing the contributions of the new fibers.

For instance, after three years of intensive ballyhoo about wash-and-wear with an excellent consumer acceptance the biggest obstacle to good after-wash appearance is seam puckering. Seam fraying and incompatible findings are still too prevalent in synthetic-fiber garments. The dye chemists have been doing yeoman's work on new synthetics and colorfastness is not the problem it once was, but there is still much to be done to equal the color know-how and state of the art of the older fibers.

The service industries are often remiss in their responsibility to their customers in the cleaning and refurbishing of new fabrics and finishes. After all, by the very fact that they set themselves up as professional experts, laundries and dry cleaners assume a responsibility to their customers to be able to handle properly anything that is submitted. They should be prepared to master whatever new techniques are required for good cleaning of modern fabrics. Rather than admit to limited skill or faulty technique as the ruin of a textile article, the professionals sometimes hide behind a claim that the product is inferior, seeking to place the blame on the retailer and garment maker. In all fairness to the cleaner, however, the promoters of fibers, fabrics or finishes with radically new properties have a responsibility to supply proper care instructions.

The retailers should insist on factual, informative labeling which honestly proclaims the nature of the material and offers a guide to the best care and utilization of the product. If the retailer has no testing or examining facilities of his own to prove out performance, there exist industry standards that can be invoked in purchasing goods so that certain minimum performance can be expected of goods in consumer use.

Most of us can recall, perhaps with a bit of nostalgia, when life in the apparel trades was relatively simple, when there were only five or six basic textile raw materials of any consequence. Just a little discernment was needed to differentiate between fibers and, with a modicum of experience, it was not difficult to recognize quality. These days the old line buyer and the neophyte are almost on the same level because it requires a technician with a bag of laboratory tricks to make a positive fiber identification. The ultimate challenge, then, to modern fiber technology is to produce some order out of the current chaos and create some ground rules to help retailers and customers recognize and select true textile quality.

There is no denying that modern fiber technology has brought great new vistas in style and esthetic appeal, in superior easy-care performance, warmth without weight, utility without drabness and enhanced ruggedness and durability. Much of the color, sparkle, variety, and diversification in textiles which creates the impulse to buy and opens new markets would not be possible without the new synthetics and the stimulus their development has given to producers of natural fiber textiles. But it is also necessary in order to hold the faith of the buying public for all stages of the industry to be more meticulous about the less glamorous aspects such as solid textile constructions, sound application, intelligent practices in garment construction and honest endeavor all along the line to make the product perform as represented.

Before I step down I would like to pose a problem or two for our panel.

1. Isn't there some way, during the early, nebulous stages of selecting seasonal style colors and fabrics, for the arbiters of fashion to be aware of reality and select fabrics that are basically suitable for the garment they have in mind and choose colors that have colorfastness consistent with the intended use and care of the garment?

2. There is need for some fiber classing system to reduce the chaos of a hundred competing trade names to a manageable concept of fiber properties.

3. How can garment makers be impressed with the necessity of using findings and construction methods compatible with synthetic fiber fabrics, expecially in the realm of wash-and-wear?

4. There is need for better communications all down the line of manufacturers from fiber to garment.

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Dimensional Stability. Zantrel has inherent resistance to initial and progressive shrinkage, stretching and sagging. In addition, Zantrel fabrics can be Sanforized*, just as cottons can.

Easy Care. Zantrel has natural wrinkle resistance superior to that of "old" rayon, or cotton; also responds readily to wrinkle-resistant finishes.

Longer Wear Life. Has high tensile and tearing strength, wet or dry. The markedly higher wet strength (100%) of Zantrel compared with "old" rayon is a dramatic indication of its superiority.

More Comfort. Zantrel has a warm, friendly touch; moisture absorbency equal to cotton; permits more air penetration than cotton; is completely static-free.

What does it contribute to fashion?

Zantrel sets a new level of luxury for synthetic fabrics.

Its subdued *luster*, *rich hand* and *drapability* approximate a cross between silk and fine combed cotton. All these qualities can be varied to suit individual needs.

All color effects are possible with Zantrel; it takes color with more brilliance and clarity than similarly dyed cottons.

In 1.0 and 1.5 denier sizes, it enables mills to meet the demand for *lightweights* and *sheers*, with fabrics that give *wash-wear* performance. Also available in 3.0 denier.

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Unlike every other synthetic, *it can be run* from start to finish *on cotton equipment;* acts like cotton in every way, at every step of production, with little or no danger of contamination from fly.

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Zantrel is the first luxury synthetic that can be printed or dyed in *vat colors* on a continuous cotton range. It can be package dyed, beam dyed or piece dyed.

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Can it be given special finishes?

Zantrel fabrics can be finished on either the cotton or "synthetic" system.

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It is *compatible* with *wash-wear* finishes, takes less resin than "old" rayons, is not weakened by it as cotton is.

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Can it be blended?

Zantrel blends beautifully *with natural* and *synthetic* fibers.

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It makes similar contributions in blends with *polyesters* and *acrylics*, adding superior comfort to these fibers.

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Most conspicuously: into women's and children's dress fabrics and men's shirtings, tropical suitings and slacks.

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WEIGHING RESULTS—Five members of the retailing panel review the significance of the discussion printed below. They are (left to right) Laurence T. Gerrity, Genevieve Smith, Ephraim Freedman, William Burston and Margaret Ingersoll. Another member, Dr. Dorothy Lyle, was not present when photo was taken.

Retailing Panel: Questions & Answers

Panel Members

Dr. Dorothy Lyle, director of consumer relations, National Institute of Drycleaning, president, American Home Economics Ass'n; **Margaret Ingersoll,** editor, Vogue Magazine; **William Burston,** manager, merchandising division, National Retail Merchants Ass'n; **Genevieve Smith,** manager, New York Laboratory, Sears, Roebuck & Co.; **Laurence T. Gerrity,** general merchandising manager, Celanese Fibers Co. **Ephraim Freedman,** R. H. Macy & Co., served as moderator.

MODERATOR FREEDMAN: The first question, which I'll address to Mrs. Ingersoll, will be: "Do the new fibers contribute to fashion?"

MRS. INGERSOLL: Definitely, new fibers have contributed to fashion. One very important contribution to fashion is the "marriage" of fibers, which often contributes to (1) lightness of weight. For instance, I have in mind a very beautiful sheer fabric, made of wool and a new fiber. This fabric could not have been as sheer without the strength of the new fiber.

New fibers have contributed to texture, coloring, variety. For example, certain fibers will not take the colors of other fibers or will not take a particular color at all. Therefore, in blending fibers, you get a variety of colors in a fabric that may make it a very interesting one. New fibers have permitted the development of new constructions. One that comes to my mind, which could not have existed, with apologies to the Federal Trade Commission and the Textile Fiber Products Identification Act, is the furlike fabric, and I need not remind you of the great contribution the new fibers have made to jerseys and nets. They have certainly set the pace in fashion.

MODERATOR FREEDMAN: Does any Member of the Panel care to comment on Mrs. Ingersoll's remarks? Not hearing any, the next question, to Mr. Gerrity: "What are the fiber producers doing to stimulate new fashions?"

MR. GERRITY: Generally, we feel we are doing quite a bit in this area, beginning with a collection of fabric trends, new ideas, fashion ideas. This can be in the form of color, fabric, texture, garments.

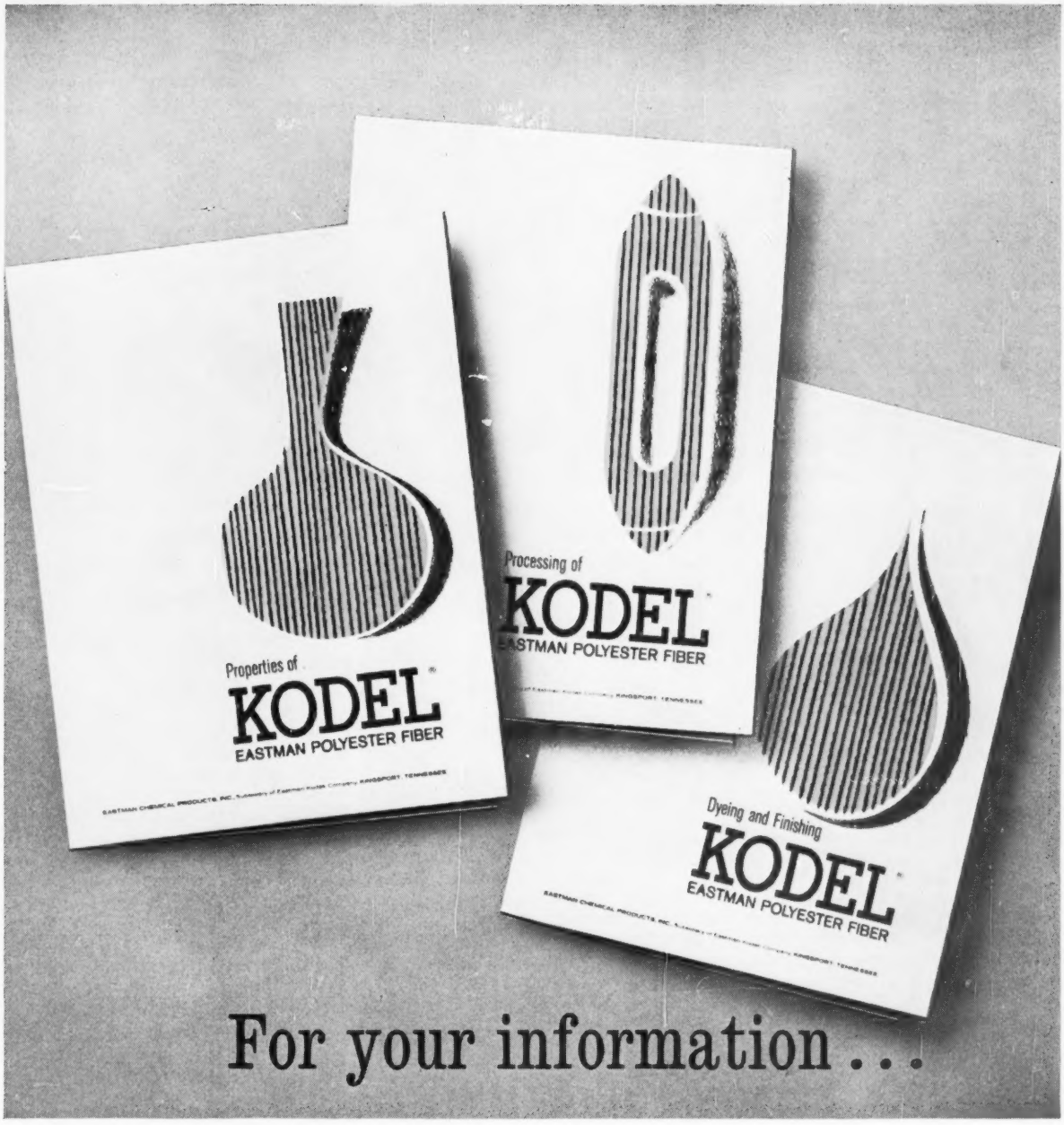
Then, we try also to have fibers that will permit construction of lighter weight fabrics, fiber development ideas so as to present the trade and ultimately, we hope, the consuming public, with fabrics that are properly balanced in construction and, which is most important, that will perform as suggested.

MODERATOR FREEDMAN: "Are performance characteristics considered when color fashion standards are initiated?", Mrs. Ingersoll?

MRS. INGERSOLL: Not at the time when fashion colors are initiated, however, when colors are decided upon as being the fashion colors, the next question is whether these colors are going to perform; in other words, will they change in color when put in use, such as being subjected to the elements and to washing; are the fibers going to withstand washing and ironing or cleaning?

Today there is great talk about and much development going on in stretch fibers. I'm not talking specifically of the two-way stretch news in active sportswear but stretch fabrics that will find their end use in our ordinary daytime clothes, dresses, suits and coats. These will be fabrics with stretch in the filling only or the warp only.

It will be important to explore whether these stretch fabrics will stand up to any and every end use. It's impossible to police every use of every fabric that will go into the market; but I think the



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fiber people have been doing a very good job; yet you certainly could not know everything that's going on. It must be explored in every way possible. A fabric should be examined for indestructibility, just as a fabric should not be tagged as washable unless it can be washed under the worst conditions.

MODERATOR FREEDMAN: Miss Smith, would you like to comment?

MISS SMITH: Yes, thank you, I would like to add a comment to this question. It seems that by the time some of these new fashion colors get to the retailer and consequently to the consumer, they do not perform. Has there, somewhere along the line, been a lack of communication between the fashion instigators and those who carry out the program for the season? It would seem that this should be a challenge to the dyers and finishers, to produce better color fastness and better fabrics so that they would perform satisfactorily for the consumer.

DR. LYLE: I thought you might be interested in the statistics from the Textile Analysis Department of NID on color change or color damage. Of the 22,315 problems handled, 7,392 resulted in dye or design problems. 2,076 were attributed to the customer. 4,061 to the fabric; 1,061 to the dry cleaner; and 197, unknown. I was never good at mathematics, so you can figure out the percentages.

MR. BURSTON: May I add here and, after all, I'm not the technologist, remember, I'm merely the listener at the Association. This stretch business has been stretched, I think, beyond the truth and we have complaints from women who are using these so-called stretched materials. They stretch at the seams and then the women are afraid to get up for fear they might expose themselves.

MRS. INGERSOLL: I'm sure there is a great deal of development to be done, but it is a trend and we must face it, and it is a challenge.

Speaking of colors which will not perform or will streak if they are washed, I feel that if a color is in fashion, we'll say, and it's not a color that—today, there are many colors, it's the cast and degree of color, the depth of color, that is important, the cast of the color, whether it's a blue-red or a yellow-red, whether it's a yellow-green or a blue-green.

But, when you find your fiber or fabric cannot take this dye, then don't do it. There are plenty of others. And, if you do, be sure you have a tag, if you are sure this will not wash, and it will streak, have a tag on it and say, "Have this garment dry-cleaned".

I think all of us at times buy luxuries and if we know they are luxuries and we are not fooled, it's all right. We buy a 10-denier stocking. We know they will run but we love them; it's a luxury. It's the same thing in any garment, if we know we cannot wash it and it will streak and we have to have it cleaned, or even if we know it will discolor, at least tell us that, don't fool us. We don't like to be fooled.

DR. LYLE: It might be some consolation to these people, who are producing the synthetic fibers, that as far as the colors are concerned our greatest area is in the resin-bonded pigment colors on cotton materials and poor color fastness of dyes on silks, but I might say the third largest area is in the fluorescent dyes, which are used across the board, so to speak.

MODERATOR FREEDMAN: A question for Mr. Gerrity: "Has the substitution and sales promotion of one generic fiber for another limited the creation of new fashions?"

MR. GERRITY: I would say, to the contrary directly. As a matter of fact, the introduction of various new fibers over the past 15 to 20 years, I think, has allowed the textile industry, from the designer to the converter, the garment manufacturer, considerably broader range of style and possibilities.

Ephraim Freedman

MODERATOR FREEDMAN: Thank you. Any comments?

Mr. Burston, "Does the consumer's confusion about fiber names create sales resistance?"

MR. BURSTON: Let me say one word, "YES", in capital letters, in italics, and underlined four or five times and with 16 or 17 exclamation points after it. Let me also add that, as a defense, and I'm not trying to be facetious, this is really a serious problem because we have complaints, remember, and complaints are expensive, but the only practical way merchandisers find for giving the information with regard to a synthetic fabric to their employees, in turn to pass on to the customers, "Madam, this is a synthetic fabric" and don't go any further—

We just simply get lost in hundreds of names, which are meaningless to the average consumer.

MODERATOR FREEDMAN: Mr. Gerrity, would you like to comment on this?

MR. GERRITY: I feel sort of trapped (laughter). Actually, I don't think there is anybody connected with any of the fiber producers who can basically disagree with Mr. Burston's statement. I think though, that, in any industry when a new product is brought to market, the firm or corporation preparing and marketing the product is always anxious to get whatever identification they can attain in order to create a demand at the various levels of distribution.

MISS SMITH: This may be a related comment, not specifically attached to numerous names of fibers, but fibers are often blended in various ways. We are familiar with the intimate blend; we are familiar with the combination of warp and filling yarns each being different; we are also familiar with the warp and filling having both fibers running in each direction.

Sometimes the promotion that is given to the consumer is confusing. She has one reaction with an intimate blend and she has a completely different type of reaction with the other two. Therefore she is more confused and bewildered than ever by the

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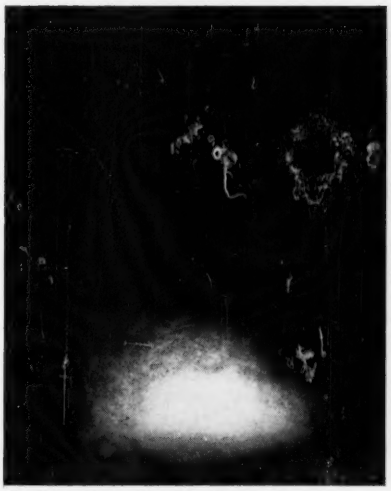

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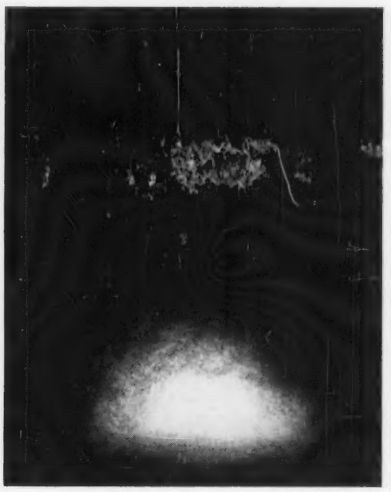

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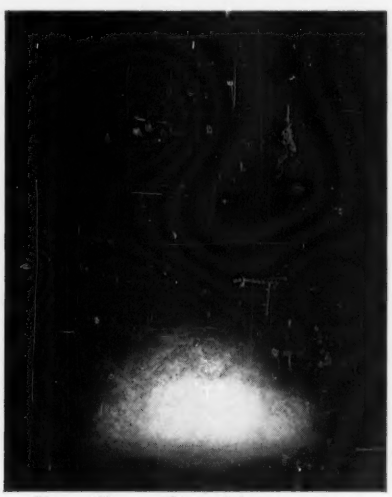

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time she has purchased a fabric that has two fiber names attached to it. She assumes they are the same thing. They are not, really, in their reactions.

MODERATOR FREEDMAN: Mr. Burston, "Does the consumer's confusion about fiber names create sales resistance?"

MR. BURSTON: I think that was implicit, Mr. Chairman, in my first answer. Very definitely. If the sales person cannot convey to the customer the reason that this particular textile will do what it is supposed to, or has to hide behind the fact, "Yes, Madam, this is merely a textile", you're not getting any help at all in your technological advances from these sales people.

From the customer's point of view, there is resistance to the use of all of the tags—and most of the garments today are beginning to look like Christmas trees, with so many tags on them. Just for fun, some of you might ask to be shown into the women's fitting rooms at the end of the day on any ready-to-wear floor in New York City, since we're here in New York, and you will find the floors covered, literally covered, with tags which the customer has pulled off because they detracted from the appearance of the merchandise.

MODERATOR FREEDMAN: Well, now, this leads me to ask of Miss Smith, "Is the consumer helped by a label on a product describing its fiber content? Should this label be permanent? What other type of information is needed?"

MISS SMITH: The label on the product describing the fiber content is useful for letting the consumer know what she is buying. At the point of sale, this information is available without the consumer having to depend upon the sales person. It is practically impossible for every sales person to know the fiber content of each item in her stock, particularly where there are so many blends available. Insofar as telling the consumer how to care for her purchase, such a label is practically no help.

MODERATOR FREEDMAN: Should the label, insofar as fiber content is concerned, be a permanent label or should it be a temporary one?

MISS SMITH: It would be satisfactory for that type of label to be a temporary one. In other words, it does not need to be permanently attached to the garment.

MODERATOR FREEDMAN: This would imply, then, that there is need for other information. What other type of information should be affixed to the garment or textile product?

MISS SMITH: I think it is necessary for the consumer to really know how to care for her item, as a garment, not as a fabric. Many of the labels that are on garments are those that are designed and developed by the fabric source, not by the person who has made the garment and added many different things to that fabric that he bought.

It would be desirable to have a permanently attached label, giving instructions that are concise, meaningful and easy to follow. Some retailers are using sewn-in labels, giving care instructions. A permanently attached label of this type would be very helpful to the consumer no matter how long she kept the garment and no matter whether she took care of it herself, of course, or whether she sent it out to have somebody else do it.

MODERATOR FREEDMAN: Dr. Lyle, we've just heard quite a bit from Miss Smith about fiber content labels on garments, whether they should be permanent and about other information of a permanent nature placed on the garment or other textile product. How would that affect the servicing?

DR. LYLE: Well, I can say Amen to what Miss Smith has said. Actually, as far as fiber content, to the service industry it is of very little meaning except perhaps in the case of the heat-sensitive fibers. Most of the hang tag information on labels that are not permanently attached never reaches the service industries and therefore we feel that any care information, especially where cautions are needed, should be permanently attached to the item.

MODERATOR FREEDMAN: Mrs. Ingersoll, would you like to comment on this?

MRS. INGERSOLL: I sincerely believe in and hope that the day will come when there will be sewn-in labels in every garment, reminding all of us of the specific care of each garment. It could simply read, "washable, no ironing"; "washable, to be slightly ironed"; "washable, use hot iron"; or, if it is not washable, the label could read, "must be cleaned", giving the content of the fabric. In our day, reading the tags attached to the dress, it is impossible for us to remember the specific instructions for the care of each garment.

MR. BURSTON: May I add something to that? I think, while the cleaners might not like this, I think it will save them a lot of headaches. We should definitely have instructions, although everybody says a negative suggestion is a bad one, maybe this is a good one, that under certain circumstances things should not be done in a certain fashion.

In other words, I had a case in one of our stores where the pockets, on a child's snow suit that was sent to the dry cleaner, did not clean. They were plastic patches. Also, rubber-backed fabrics of raincoats had been sent to the cleaner, and, in both cases, they were ruined in the cleaning, not because the cleaners like to ruin things but because these garments could not stand that treatment and therefore the "don'ts" should be equally as important as the "do's."

MODERATOR FREEDMAN: Mr. Gerrity, "Does fiber advertising on a national basis stimulate consumer demand for a product?"

MR. GERRITY: We certainly hope so. (Laughter). Actually, with the millions of dollars that fiber producers and others in the area of textile distribution spend on their products, either the name of the fiber or the name of the fabric or garment or what-have-you, I think we have to realize that there are many ways to create this movement of goods, which is primarily what we are all interested in, this movement of goods across the retail counter, off the racks in retail stores.

On the one hand, you could have a great debate on the benefits of retail co-op advertising versus the image-making type of thing of an institutional variety. I think in the reality of this whole thing, a happy blend of the two is certainly necessary.

MODERATOR FREEDMAN: What would you say to the question of the fiber producers' doing enough local advertising, telling the consumer what, where, and when, to buy and, I might say, why to buy?

MR. GERRITY: Well, on the one hand I'm sure any retailer in the room will say no to that. However, I think for the most part over the past few years most of the fiber producers have realized that, if they

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cannot aim their particular ad or promotion at a store, at a specific point in a city, in order to direct the public's attention to that, that they would be wasting an awful lot of money.

MODERATOR FREEDMAN: Mr. Burston, would you like to comment on that?

MR. BURSTON: I think in set circumstances, the claims can sometimes be harmful as to the care of a garment and also, therefore, be the cause for complaint. As we think of synthetics, we think practically of two most important virtues. One is wash and wear and the other is crease resistance, rather, crease retention or pleat retention.

MODERATOR FREEDMAN: Mrs. Ingersoll, do you wish to add to that?

MRS. INGERSOLL: I would like to repeat the question, "Does fiber advertising on a national basis stimulate consumer demand for your product?", and I would answer yes, the kind of fiber advertising that will build confidence in the consumer's mind, that Fiber X is a little superior, so that she associates it with fashion and quality merchandise, and when she sees a garment labeled as Fiber X, she must know what Fiber X offers. She must be educated.

There are so many similar fibers being born, having the same qualities and performance, the consumer should be told that this fiber is in top-level fabrics, and there are many in that class, with no price tags, so there is an association of prestige with fashion, and I feel the kind of advertising must build confidence in her mind so that when she receives the answer that is given in the store, "This is Fiber X", immediately she associates it with prestige.

MODERATOR FREEDMAN: Would you say that confidence should be stressed more on the national or local level?

MRS. INGERSOLL: Well, both, but I first think of national.

MODERATOR FREEDMAN: Dr. Lyle, would you care to comment?

DR. LYLE: In consumer groups that I work with, I think this has been one thing that I have been very much aware of and that is, through advertising, manufacturers have given the idea to the customer that everything is wonderful and she has really come to expect too much from advertising and promotion. I think it should be more realistic.

MR. BURSTON: I would like to add there, if I may, if I have been critical, of course, I have been that deliberately, as you know. I don't mean to say, of course, that I am hostile in any way to synthetic fibers. I think they have made immense strides and I don't know what modern textiles would be without them. I am certainly 100 per cent for them. All I'm saying is, let's be sure we know their limitations as well as their sales possibilities and work between both.

MODERATOR FREEDMAN: Dr. Lyle, Mr. Fynn stated that the service industries are often remiss in their responsibility in the cleaning and refurbishing of new fabrics and finishes. Would you care to comment on this statement?

DR. LYLE: Well, of course, you would expect me to defend the industry, wouldn't you? But I do want to say the National Institute of Drycleaning has been grateful to the many textile producers, that is, fiber producers and fabric producers, who have cooperated with us from time to time to develop bulletins to be sent out to our members, giving them instructions on how to handle the new fabrics and fashions.

I think you can appreciate that we have a terrific educational job to do in our industry, just as the retail store has, to educate their sales people on all these new fibers. And you say it's almost an impossible job. Well, we have this educational job to do with all of the employees of our over 8500 drycleaning plants in the United States.

Again I go back to our statistics, as gathered in the Analysis Department. I mentioned that last year we handled 22,315 complaints. Of this, 26 per cent were attributed to faulty dry cleaning practices, so you see we do place responsibility on our members when they fail to service merchandise properly.

However, by the same token, the fabric defects, which are directly attributable to manufacture is 36 per cent. And then we place damage in consumer service at 37.4 per cent, and if any of you are interested in the breakdown in these areas, we have these available, if it's desired.

MODERATOR FREEDMAN: Mr. Gerrity, Mr. Fynn said that promoters of fibers, fabrics or finishes with radically new products have a responsibility to supply proper care instructions. What is your reaction to this?

MR. GERRITY: I couldn't argue that question. We have a responsibility and I think, generally speaking, for other fiber producers as well as ourselves, we can say that we have a desire to reach this approach. However, as Mrs. Ingersoll pointed out a while ago, somehow people forget what they read on the tag when they first buy the garment. Then, today, with the increased number of fabrics and the garments of blends of various fibers on the market, it may be quite confusing to people when they have 15 or 20 dresses hanging in the closet, to remember how each on has to be washed and dry cleaned and so forth.

IR. BURSTON: May I bring in a plug for NRMA?

MODERATOR FREEDMAN: Go right ahead. We may charge you for it but—

MR. BURSTON: We are serious and as a number of you know, we are embarked already on the Sure Care symbol project. We are trying to establish symbols for means of caring for all types of textiles. We are also indicating by X's through those symbols that those precise methods of cleansing or laundering or dry cleaning should not be used. We have been heartened by the fact that both manufacturers and textile manufacturers, mills, converters, and now consumer publications, have all said this is the answer and I'm glad to say, and this was completely unrehearsed. I'll assure you, that basic to all the conversations so far on the panel was the need to give the consumer adequate and vivid and permanent means of properly handling the garment.

These symbols on which we are embarked, our Association is claiming no credit for it. We'll give it to anybody who wants to use it. It will ultimately be the means whereby the customer won't have to try and remember, having thrown away the tag which told her how to use it. There, permanently on the garment in some fashion, either sewn on as a label or imprinted in some fashion, will be the way to handle the garment until it wears out. So just imagine all the headaches that will be avoided by this simple procedure.

MODERATOR FREEDMAN: How about the statement that retailers should insist on factual, informa-

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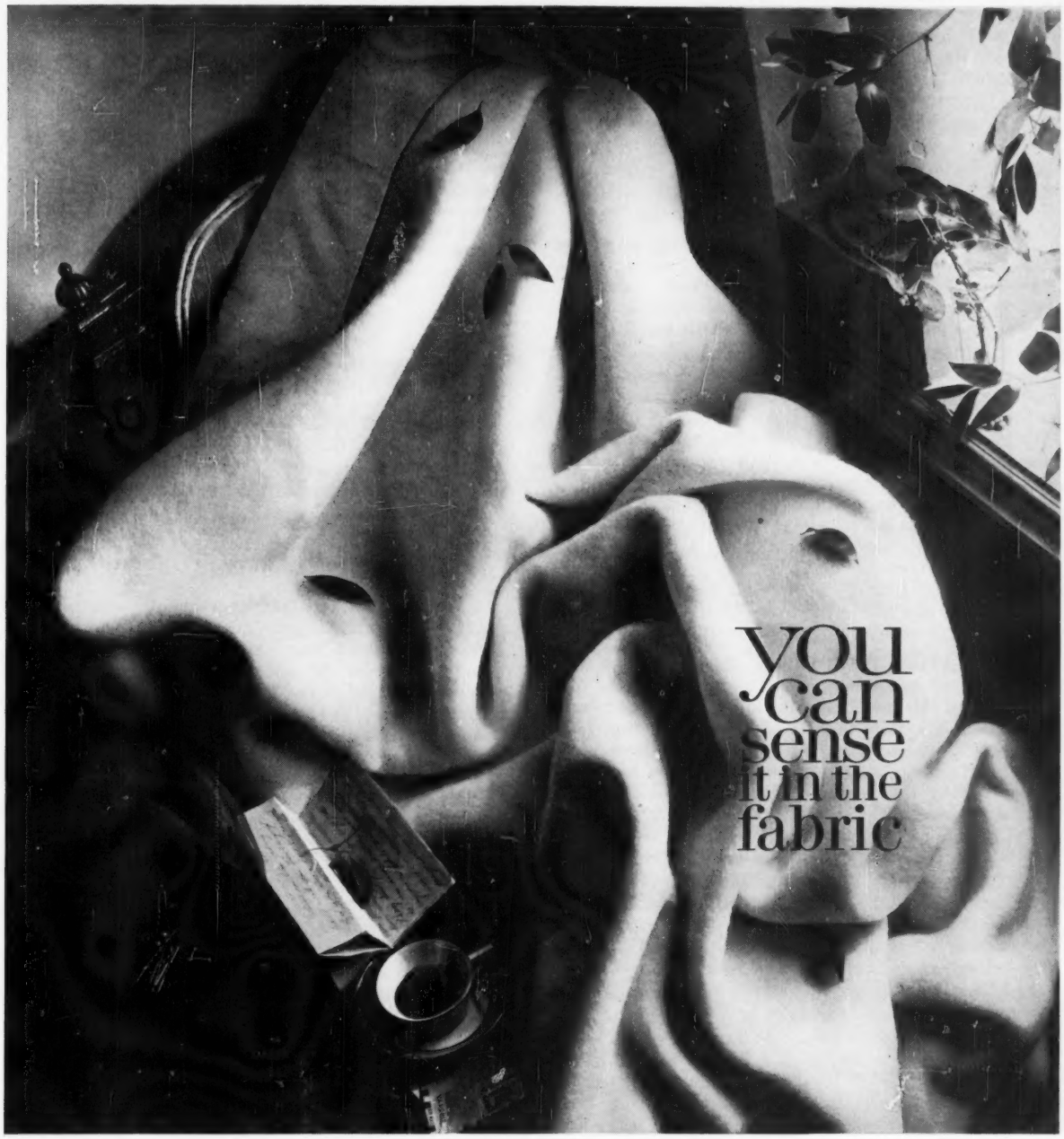

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tive labeling, which honestly proclaims the nature of the material and offers a guide to the best care and utilization of the product? That was a statement that was made by Mr. Fynn. Would you care to comment on that, Mr. Burston, though you covered it in some measure by your preceding remarks?

MR. BURSTON: I would merely say, definitely it is needed and, again, in the interests of the long-term, which is the most important, for actual non-pressure selling, statements would be made, "Do thus and so with this thing" and the whole field of synthetic fibers and fabrics would be given a great big boost.

MODERATOR FREEDMAN: Mr. Gerrity, have you any suggestion which would, in Mr. Fynn's words, "produce some order out of the current chaos and create some ground rules to help retailers and consumers recognize and select true textile quality"?

MR. GERRITY: I think basically what we are talking about here is the need, through all areas of textile distribution, from the raw material stage right through to the consumer, to the retailer, for better overall communications. I think, in many cases, at one end a person may start with a fabric or a fiber and feel that it will perform in this way and that it will last and wear well and so on and so forth; but there are many intermediary stages of textile processing between the initial spinning of the fiber and the time it gets on the shelf.

If this communications pipeline were improved, I would think we would have less of the problems we face today.

MODERATOR FREEDMAN: Earlier, we heard something about the many different fiber names. Mr. Fynn posed this problem, that there is need for some fiber classing system to reduce the chaos of 100 trade names to a manageable concept properly Does anyone on the panel have any idea or suggestion as to how to bring that about? Mr. Burston, before, suggested the use of the term, "synthetic fiber" to cover all of the fibers. Does anyone differ and, if so, to what degree. Mr. Gerrity, would you care to comment on that?

MR. GERRITY: It's quite a difficult one. Here again, I think that possibly the only way this problem can be surmounted is through this constant communication service at various levels of distribution.

MR: BURSTON: Remember, I'm not a technologist, but the latest count which one of our members gave me, was 251 different yarns available in the American market. You know, by the Textile Fiber Identification Act, the FTC tried to set up generic terms. From a technology point of view, wouldn't it be feasible probably to take the 18 or 19—is it 16?—and possibly bring them down to perhaps two or three or maybe four large and all-inclusive forms.

MODERATOR FREEDMAN: This would take a long time to answer and within the time allotted we'll just have to leave that for a later date and have some thought about it.

Now, who will volunteer to answer this one: How can garment makers be impressed with the necessity of using findings and construction methods compatible with synthetic fiber fabrics, especially in the realm of wash and wear?

MR. BURSTON: I do believe that is an engineering problem—I believe the manufacturers really need to be taught—still continue to be in need of teaching on how to handle the fabrics. If they don't give—and, remember, they have been playing with fabrics that have given—they have to make certain engineering allowances and, if they don't know them, they need that type of help.

MODERATOR FREEDMAN: Would you suggest a series of meetings be set up with the different garment manufacturers?

MR. BURSTON: Or their trade associations, yes.

MODERATOR FREEDMAN: Finally, and perhaps the most important question of all, for which I'll give you one minute, if anyone cares to reply, there is need for better communications all down the line of manufacturers from fiber to garment. Mr. Gerrity, I believe you touched on it before and, Miss Smith, would you now care to add to that?

MISS SMITH: I wouldn't particularly care to add anything to it except to say we feel it is very important too, that information doesn't get lost between the fiber manufacturer and the time the item gets to the consumer.

DR. LYLE: I might say, NID, I think, has taken a step forward in the right direction by opening up a textile affiliate membership, whereby there should be a free flow of information from our industry to the textile industry.

Moderator's Summary Remarks

THE TIME ALLOTTED this panel was, obviously, too short for a more comprehensive discussion of the theme, i.e., 'The Challenge of Modern Fiber Technology'. However, certain distinct observations can be made, which, it is hoped will be of interest to all concerned. They are as follows:

Manmade fibers have contributed greatly in terms of style, increased performance characteristics and ease of care of textile products. The application of these fibers to textile products, either alone or in combination with other fibers continues to present construction, dyeing and finishing problems all of which add to the number of customer complaints involving colorfastness, dimensional stability, comfort and wearability.

Over-emphasis of the virtues of a manmade fiber, per se, tends to provide a distorted picture regarding the end use product for the simple reason that many other elements also contribute to satisfactory performance. Failure to ascertain the colorfastness of textiles before decreeing what shades should be promoted adds greatly to the complaint situation.

Exaggeration in both national and retail advertising either directly by fiber producers or indirectly through various outlets creates confusion among all echelons—from the textile product manufacturer to and including the ultimate consumer. This confusion is compounded by the many tags affixed to textile products.

Much of the confusion as well as the number of the justifiable complaints can be greatly reduced if the following practices were generally observed:

1. Factual information relative to performance is initiated at the source of information and is transmitted down the line to the ultimate consumer.

2. The number of complaints, now justified, or otherwise regarding reaction to washing, drycleaning and ironing procedures can be reduced to a minimum by factual information as to proper procedures to be employed, permanently stamped, printed or affixed to the textile product.

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(audio) . . . pressure vessels
(audio) . . . piping
FP
(audio) . . . pumps
(audio) . . . and gloop
(audio) Their process is top secret
(audio) They need a working partner
(audio) . . . to design and build equipment
(audio) . . . to develop a pilot plant
(audio) And most important: Someone they can trust
(audio) America's leading fiber producers
LADY
TIGER
(audio) . . . have solved this dilemma
BUTTERWORTH
(audio) . . . at Butterworth
(audio) . . . world's largest independent manufacturer
(audio) . . . of synthetic fiber machinery
FP
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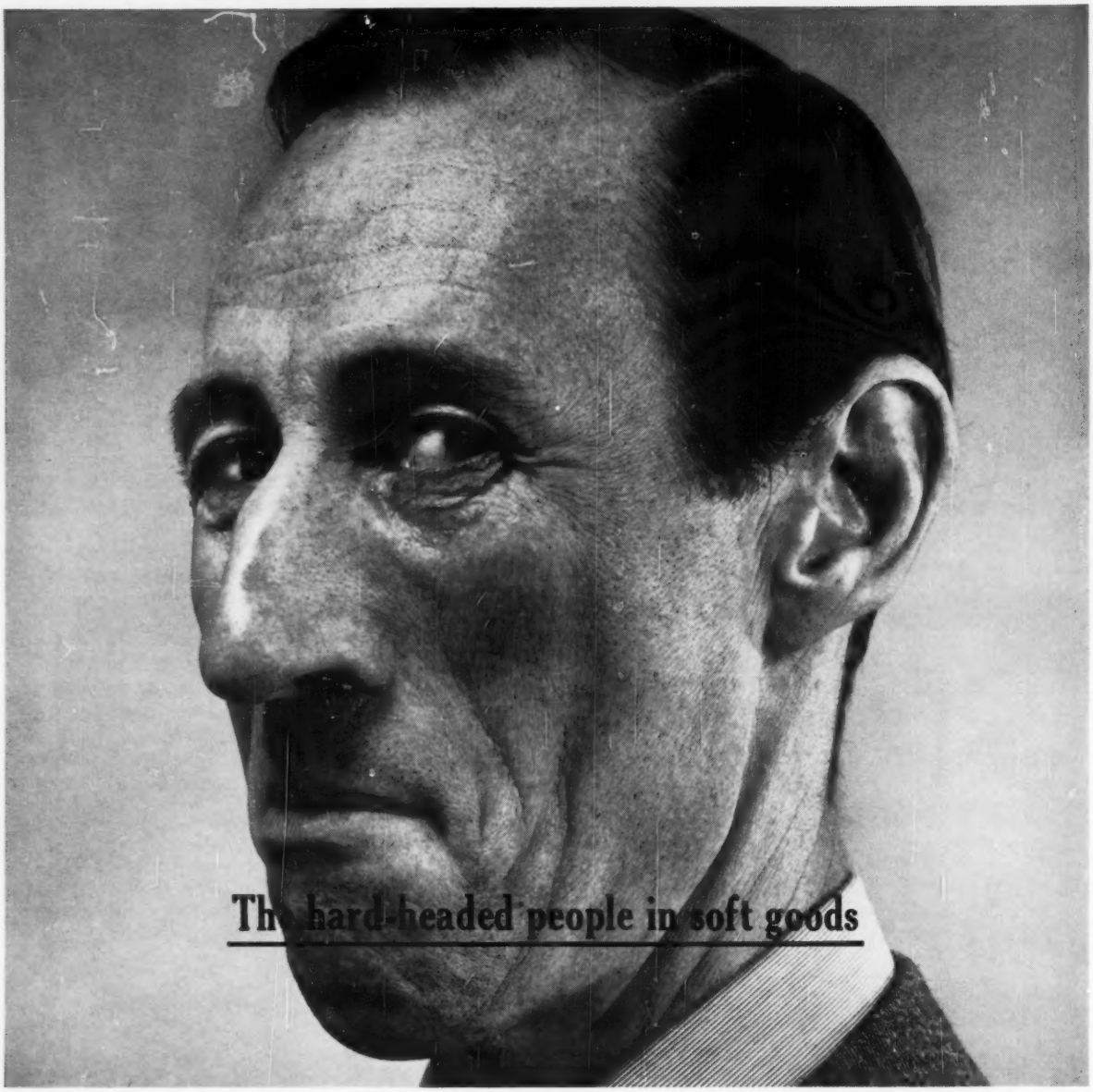

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COLORAY®
SOLUTION-DYED RAYON

CORVAL®
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End Product Manufacturers' Panel *Introductory Talk*

Let's clear away these roadblocks to TEXTILES' BRIGHTER FUTURE

by William N. Doniger,
PRESIDENT, MCGREGOR-DONIGER, INC.

HOW CAN WE, as a part of this vast complex structure of modern textiles, best utilize all the great developments in the new technology of fiber and finishes? How can we spell out for ourselves—and, even more important, for those who work with us, a very clear concept of what these modern fibers can do, and can be made to do, now that they are reaching maturity?

They can no longer be looked upon as the wonder children of the textile industry, but must become fully responsible citizens, each equipped to do a certain type of work and do it well, if not better, than the materials we had at our disposal less than a generation ago. The road ahead is therefore bright with opportunity for new creative developments in product manufacturing based on new textile technology. But I suggest for discussion by this panel, that there are roadblocks on that bright road which demand removal so that our industries can move ahead.

Roadblock #1 is the confusion about names. The very number of fiber names, process names and product names is staggering even to the professional with well over 1,000 separate and individual trade names in manmade fibers and processes alone. Out of the test tubes have come not only the vast benefits of textile development, but a Tower of Textile Babel. Clarification of these names to the buying public would remove a major barrier of confusion from the road ahead.

If Roadblock #1 is the confusion of names, Roadblock #2 is the confusion of claims. The distinct roles and benefits of each fiber and process must be clearly defined. Their performance claims must not only be well founded in scientific fact—but they also must be expressed to the public in the relative order of importance. For example, on a given article of wearing apparel, should the major claim be "wash 'n wear" (that is, drip dry without ironing) or should it be "easy care"? The better we define the performance of each fiber and process, the sooner we can expect to see an end to the promiscuous use of the fibers which, in the past, resulted in those colossal blunders which created a vast doubt and confusion at both the manufacturer and consumer level, and which almost turned the fantastic opportunity of modern miracle fibers into a modern debacle. But is all of that now past?

(Continued on Page 27)

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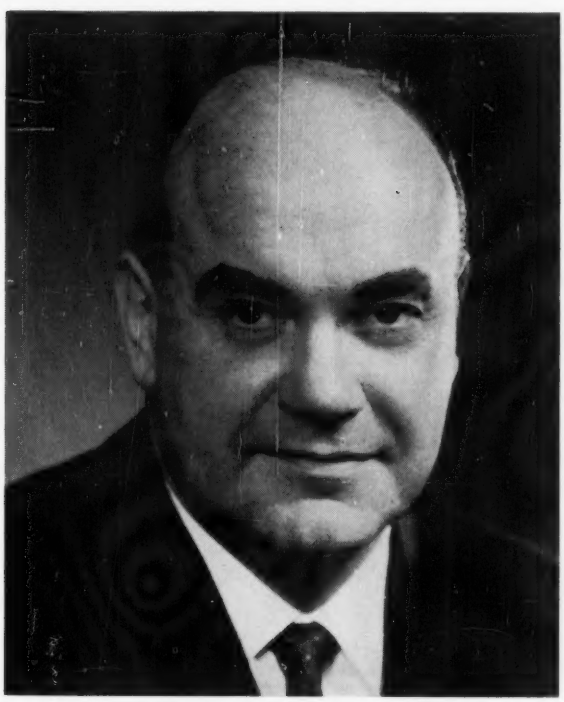
Today's new knowledge-seeking consumer audience has a terrific want-to-know approach to its buying. They want to know, and it is our obligation to show them and tell them the facts of performance and quality. And how fortunate for us that it is so much easier today to communicate with them by all the means at our disposal. Through the schools, the differences in the science fibers and their qualities have been explained. Through the magazines and newspapers, not so much from a technical side, but through the every-day use of words in advertising, the advantages are being spread. Through television, radio and the other means of mass communications, a good portion of time is being spent on educating this great public, this young public with its eagerness for the benefits of modern living.

This very willingness of the consumer to absorb and comprehend the advantages of these new fibers brings about a heightened responsibility for us as product manufacturers. We must guide the consumer through a maze of products, all of which may bear the name of one manmade fiber, but which vary tremendously in quality. Out of one major raw material, fiber, comes products which have been finished according to widely different standards and at widely different costs with different product manufacturing techniques, for many, often unrelated, end-uses—yet they all bear the same name of the one major raw material widely advertised and promoted at the consumer level.

No one company in the world has enough money to do all the fiber advertising that is necessary; but one thing we product manufacturers know is that advertising for advertising's sake alone isn't worth the paper the magazines are printed on. Fiber advertising, no matter who pays for it, must sell goods at the right time and place because, after all, how many stories can salesmen tell in a day? Within the limited time that a retail salesman can handle a single buyer's needs he must present a product that is saleable because of its value not because the advertising is pretty.



William N. Doniger

National advertising, whether it is in magazines, newspapers or television, that sells fiber alone is, in my opinion, a waste of time and money. No consumer ever wore a fiber—consumers wear end products! Promote the style and value benefits derived from fibers by demonstrating them in quality end-products to get full benefit. Try also to tell where they can be purchased because the consumer relies largely upon the end product manufacturer—the great brand names he knows and trusts.

Roadblock #3 in our list of obstacles to be overcome is the limitation of product styling imposed on us by certain limits in the manmade fibers. I will give you just two examples: as yet, there is not a good oxford shirting cloth which satisfactorily demonstrates the advantages of manmade fibers; and, as yet, we are not convinced that we can achieve as satisfactory a shetland type sweater in man-made fibers as in wool. There are other shackles to creativity in colors and patterns held back by the present limits of manmade fibers.

Roadblocks but Temporary

These roadblocks are but temporary, I am sure. For textile technology has overcome far greater barriers in bringing us the present range of new fibers and processes, and in opening up new roads to tomorrow's products. To mention just a few: Quite nearby, the stretch fabrics which up to now have been mostly imported and have had limited use in ski trousers and slacks, will spread through the entire industry and give a new benefit of freedom and comfort. Just during the last few years the combination of new modern techniques of lamination of products made of science fibers has brought a new lightness and usefulness to fabrics which now become more stable, and therefore more tailorable, easier to manufacture, more shape-retaining and, of course, more desirable.

The elimination of roadblock #4 requires the fiber producer to spend more time and money in understanding the problems of the product manufacturer as they relate to moving goods to the consumer, for it is only at this level that the final verdict of success or failure is determined. Too often the fiber producer has lead the product manufacturer into a program without sufficient attention to product manufacturing problems such as puckering in sewing, glazing in pressing and latent streaks which have developed in knit sports shirts of textured yarns. Too often a retail promotion has been encouraged without subjecting the fabric to the complete production vigors of processability and evaluation on a production basis—only to find that a season's efforts have been wasted and a loss of prestige encountered as a result of problems that might have been anticipated and solved in advance. The high cost of closing out such mistakes is often prohibitive.

In addition to improving their understanding of product manufacturing process, producers must better understand product distribution psychology. The first line of product manufacturer's resistance is his own salesmen. The product salesman knows what motivates the retailer, the retail salesman and the consumer. Success with a given blend last season is the best stimulus for a willingness to buy next season's line in the same blend with new styling.

When the chips are down, there is really little room for overlapping of duplicate products with different fibers, in the same line—which look the same and sell in the same retail price bracket. New fibers

and new blends must be accompanied by new fabric and product styling to win a permanent place for themselves. Some of the new chemical fibers have already well established their product markets in the past few years; others have been hit and miss; and still others have yet to win their spurs. Some trial and error is needed—and some failures are occasionally unavoidable in the course of progress—but the chances of success are greater if the introduction of a new fiber or blend is accompanied by a refreshing new look.

It seems to me that with the broader understanding and knowledge that is now in hand, and the great amount of talent and creativity that exists in this great industry, our manufacturing futures are completely tied with the further developments in the science fiber field. I believe all the great moves in the future will tie up with creativity.

Looking ahead, one can only see new horizons and, in the non-political sense, new frontiers! With each technological advance in textiles come new stimulants to product development—new chances to use our imaginations as stylists and manufacturers. In fact, the supreme value of the new fibers and processes lies in their broadening of the field of creativity in textile products.

Consider what the development of textured nylons has meant to the knit shirt business in recent seasons. Consider what the new developments in acrylics are doing for the styling of sweaters that combine a much-wanted bulky look with the lightest of weights! In these instances we find a forecast of the bright road ahead—showing us the progress and profit to be gained as the textile technologist and the product manufacturer join together to remove the roadblocks of confusion of names and claims, limitations in styling and a better understanding of market requirements.

Let us overcome the roadblocks and move forward with the full speed of creative styling—with the full force of our imaginations directed not only to manmade fibers but to new manmade fabrics, products and markets, new manmade sales, new manmade profits.

Questions & Answers

End product manufacturer panel

Panel Members

Lester Schwartz, director of merchandising, Bobbie Brooks, Inc.; **Dr. Stephen J. Kennedy,** research director for textiles and clothing, QM Corps, Research & Development Command; **Walter Guinan,** president, Karastan Rug Mills; **Edward Fricker,** director of purchasing, Kroehler Co.; **Gerard K. Lake,** director of new product development, Burlington Industries; **Henry E. Froehling,** director of marketing, textile division, the Du Pont Co. **Dr. George S. Wham,** research director, Phillips-Van Heusen Corp., served as moderator.

MODERATOR WHAM: Thank you, Mr. Doniger for those very forceful remarks. Now to our Panel. The first question I should like to direct to Mr. Froehling, concerning the talk that we have just heard: What is your opinion regarding Mr. Doniger's strong statement about fiber advertising versus end product advertising?

MR. FROEHLING: I don't think there would be much difficulty in getting agreement at this level that advertising, for advertising's sake, is wasteful and ineffective. But Mr. Doniger makes an important point, which I think is being recognized and acted upon to an increasing degree by the producers in the conduct of the advertising program.

The fibers that we make, after many steps of processing and finished fabrication, reach the consumer as end use articles, not as fibers. Mrs. Consumer buys a dress, or a pair of hose, or a carpet, some product that she can use, in the form in which she wants it. She wants a total product, I think, in a form that will perform in a satisfactory manner.

And the producer's task, I believe, with his merchandising efforts, is to depict pretty clearly and accurately the contribution that his fiber makes to the styling and the performance and value of the end product. I think today a substantial part of the producer's advertising presents the fiber story, in the products sold to the consumer. If there are any ex-

Dr. George S. Wham

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It's just a question of whether we have the will to win, whether we want to provide the famous four M's necessary to do the job. The Men, Machinery, Money, and Morale—mostly the latter.

A good start was made on February 8th on the occasion of the First Annual Conference of the A.A.T.T., when leaders representing all segments of the textile industry joined forces in the first all-out attempt to come to grips with the problems presented by the new fibers.

Let's have more of this kind of thinking, more of this kind of leadership. And remember: when things get tough, it's up to us to get tougher.

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ceptions to this statement, they are due, I think, to the difference and the broader job the producer of a major fiber feels he must undertake. But let's make no real mistake about it, the aim of the producer's programs, just as of the end-product manufacturers', really are the movement of goods.

MODERATOR WHAM: Would any other panel member like to comment on this question? If not, the next question, we would like to ask Gerard Lake, why has the portion of the consumer dollar spent for textiles decreased in spite of the creative opportunity offered by the new fibers?

MR. LAKE: Aside from the obvious fact that the new fibers are lighter and generally wear longer than the older ones, I think we must recognize that after the man has satisfied his wants as to the necessities of life, namely, food, shelter, clothing, every move that he makes toward that higher standard of living, buying TV sets, automobiles, going to the theater, listening to good music, automatically reduces the relative consumption of necessities. In a certain sense, it is an aspect of our high standard of living and cannot therefore be wholly regretted.

Our job, however, is to get the absolute figures up; and, as I see it, this can be done only by developing radically new products. My hope is, by combining new textiles with polyurethane foams, with papers, plastics and the like, we can expand the use of textiles and not just sit back and see these other areas take business away from us. I think, as the old Irishman said, "If you can't lick them, join them".

MODERATOR WHAM: To Mr. Schwartz: What services can a mill offer your company, and what do you look for in considering a new fiber?

MR. SCHWARTZ: Well, what we look for, since we are one of the largest ladies' ready-to-wear manufacturers, is time to plan our lines, and we need as much as we can possibly get. Very often we are completed with our line for the coming season before certain fabric manufacturers are completed with the line of things that they want to offer to us. Naturally, there cannot be any business for these people, and it doesn't give us enough to work with from the vast market. In other words, it comes to us too late. This is very important.

No. 2, to try to create some newness in fabrics instead of gunning for the other fellow's fabric and making another version of what we already have, and we find that we just add a number or drop one in its place, so the fiber people are not actually gaining anything in that circumstance.

Color—I would like to talk to you about color fastness. I think the mills could get together with wool or cotton manufacturers and you fiber people and see how color can be dyed to one and the same shade. I would say about 40 per cent of our business today is color coordinated and not only in synthetics. We use the woolens with synthetics, and cottons with synthetics, and we find, when we adopt a shade in one fabric we cannot use it later on and we have to drop it. We have to drop, sometimes, a fiber or a fabric, and if you would put a lot of research to this beforehand and work with the woolen or cotton people, I think you would come out in a better manner and it would be very helpful as far as we are concerned.

MODERATOR WHAM: Mr. Froehling, would you like to comment on that question?

MR. FROEHLING: I concur with what Mr. Schwartz said. Basically, the fiber producer has become more concerned with the total marketing job; as the mill is his primary customer, he's interested in improving the technology of his fibers and fabric developments to bring along improvements in their properties and to present new products; to see these appearing in versions of the same old thing is disappointing, which doesn't do us good as producers and doesn't do the job for which the goods were intended for the industry.

We would like to encourage, through this communication and closer understanding of each other's problems, an exchange of information that would make the job of the end product manufacturers easier and allow the new products with the right styling to get moved into the chain of retail distribution.

MODERATOR WHAM: Our next question is to Walter Guinan: How are manmade fibers affecting the styling and pricing of carpets?

MR. GUINAN: Real good, and real bad. We used to shudder at the thought of being shackled to a sheep, and now we are constantly in fear of being captured by the giants in the fiber field.

On the good side, style, there is no doubt that the manmade fibers have enabled our industry to make wonderful new colors. We have light shades we were never able to get on wool, and bright shades we were never able to get on the wools or other fibers. It has also enabled us to make good-looking styles in more practical price ranges where, in the past, natural limitations of the animal fibers were so bad we couldn't attempt some of the wonderful style developments we now have.

On the negative side of style, the ease of getting the new colors has practically put on the shelf the skill of the man who can develop a lot of the new colors on the animal fibers or some of the natural fibers.

We have a color race today to the point where you almost brag about how many colors you have, not how good they are. That is our problem, that came with this particular development.

One of our manufacturers showed me a line not long ago, boasting that he had 42 colors. I said, "Well, you haven't got a blue, have you?" and, so help me, next day, he had a blue (laughter). This seemed rather strange. A roll of carpet in our company retails about for $1800 and you can't fool with a lot of novelties. It's a serious problem.

In the price area, the development of manmade fibers has been wonderful as far as the stabilization of wool is concerned. Contrary to popular belief, we get our wool from everywhere in the world except the United States and Australia. Every time there was any international incident of any consequence, the price of wool went up and down like a yo-yo. During the Korean war, the price of carpet wool actually quadrupled. So the use of manmade fibers has been wonderful in that respect.

On the negative side, the degrading of quality due to manmade fibers has been terrible, along with the use of gimmicks. As a matter of fact, I can't name for you one best-selling manmade fiber carpet quality made in recent years, except currently, that is still in the line, whereas some of the old stand-bys in the wool area have been going on for years.

On the other side, of style and price, we have to make the same complaint most of the retailers and manufacturers have made. These wild claims for these things are really rough. At the risk of looking

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people in the face and worrying about naming names, one fiber producer practically insulted the intelligence of the public by making claims for what it made, and I think the product was disastrously hurt to the point where you just can't kid it. That's about the situation.

MODERATOR WHAM: If any panel member would like to say something with regard to a question, just hold up your hand. Our next question is directed to Edward Fricker: What are the qualities required to meet the quality performance standards in the upholstery industry?

MR. FRICKER: Several years ago, Dr. Burley Gardner made a motivation survey for the Kroehler Manufacturing Co., showing the two most important items in the consumer's mind when buying furniture, other than style, were, would the fabric wear, and could you clean it? It was that simple.

Furniture manufacturers, fiber and yarn suppliers and mills have not satisfied these requirements. Whenever a fiber does not come up to these requirements, in a matter of a very short time we hear about it in the way of a complaint. These adjustments are made by us or through our dealer with the consumer. The mills and fiber suppliers have not felt that this has been their obligation. Because of this attitude of let's say "buyer beware", it was necessary for us, in order to protect ourselves and our dealers, several years ago, to come up with a testing laboratory and to establish a number of tests for wearing, for cleanability, for pilling, tearing, bursting and anything else that you can think of, there was so much junk being forced on the American public.

These tests developed, let me assure you, were bare minimum tests, not way up in the ether but bare minimum tests. They were established with the one purpose in mind, to eliminate complaints during only the first year of service, just one year of service. The reason for this one year was very simple. Furniture is a big price ticket item, and we had to have the furniture look good enough so that the customer would pay for it before she would break it or bring it back to the store. (laughter).

Generally speaking, new fibers have not lived up to their advance publicity. It is very apparent that yarn and fiber producers do not understand our industry and our problem. The consumer insists upon knowing that a fabric can be cleaned, and the common way of cleaning upholstery fabrics today, whether we like it or not, is with a froth solution, which contains water.

Not too long ago, one of our dealers sold a sofa with a very expensive fabric on it made by one of the finest mills in the country. This happened to be a white fabric, a flat goods, and after six months it had to be cleaned. They did an impeccable job of cleaning, except the sofa looked like this (indicating photograph). The fabric had shrunk 18 per cent, 12 inches between the arms, six inches between the rubber cushions; the skirts were pulled apart. Mrs. Customer thinks that is a little unreasonable and we sort of agree with her.

There are millions of pieces of furniture today that are being delivered to the American public, that are upholstered in fabrics of that character. In a big ticket item, the customer expects a reasonable service, and expects the fabric to be cleaned. We have discussed this problem many times with all the mills and their associations, and one of the principal reasons they give us for not taking any action is that they are unable to obtain yarns and warps that are pre-shrunk; that are usable and desirable, desirable sales-wise, that can be bought at a reasonable price. We feel there must be a better understanding between our industries. It is essential that, together, we protect the consumer since she has at present no way to evaluate the upholstery fabric.

MODERATOR WHAM: Who else would like to say a word on that question?

MR. FROEHLING: In the area of solving technical problems, contributing to the fabrication problem in the new manmade fiber fabrics, the producer has taken an increasing interest. The problems Mr. Fricker touches on are, I think, the ones that have made the producer turn more and more to looking at tagging and labeling programs, to try and assist in the protection of the consumer.

The problem you raised, I believe, is one for all of us to tackle, because it exists, I believe, at each area of the chain of distribution. If we can do a better job of communicating our difficulties back to the ones who can take action on it, I believe some progress can be made on this problem.

MODERATOR WHAM: We've got another question here, this one for Dr. Kennedy: What effect will nontextile products, such as laminates, foams and paper, have on the future of manmade fibers?

DR. KENNEDY: This question is pointed toward the long range possibilities of these pseudo textiles, as they might be called. The question really is whether you want to look at them as novelties or as things which have a definite and lasting place in the field.

We feel that things of this sort unquestionably are going to have a lasting place in the textile field. However, the things that have been said here today about the difficulties of the consumers' understanding on how to use them, how to care for them, can be magnified many fold on new materials of this sort.

In general, we feel that materials of this kind are subject to confusions in claims which transcend those of the normal textiles. If consumers are going to get any real value out of them there will have to be standards developed, something comparable to what has been developed in the textile field, so retailers, consumers and manufacturers will know how to evaluate them and place them honestly on the market.

MODERATOR WHAM: The next question is to Mr. Froehling: The jockeying for position among the conventional cottons, resin-treated cottons and manmade fibers continues in the shirting field. Would you comment on the future of manmade fibers in this important area?

MR. FROEHLING: This is a big market. Men's shirts alone consume perhaps 80-million pounds of fiber, and I think that the future prospects for the manmade fibers are very good. Conditions have been somewhat hectic in the past few years, while this industry has been assessing the impact of both the resin-treated cottons and the newer manmade fibers and trying to determine really if their effect on the conventional shirting business is substantial. Blends of the polyesters with cotton particularly give a desirable balance of performance and aesthetics and they have today become a significant part of the market and I expect to see them grow further.

The resin-treated cottons have taken a part, a

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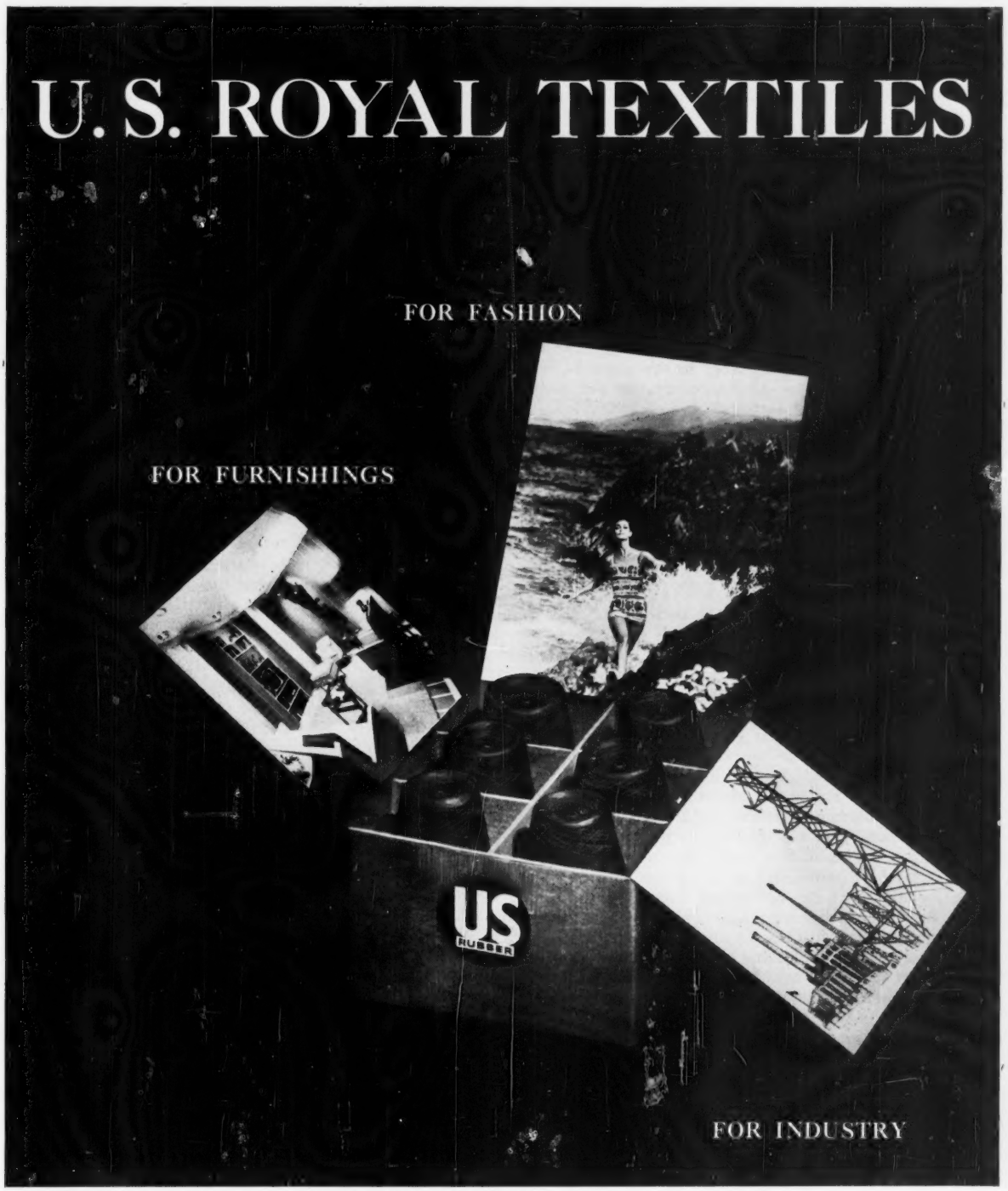

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large part, of the plain cotton shirting market, being favored, I think, by those who want wash and wear properties at a lower price than the synthetics and who do not object to the different hand and different fabric weights involved. Improved resin treatments, I think, are in prospect and I think they are needed because they must overcome some retreat in consumer interest which poor experience with the resin-treated fabrics has caused.

In the area of the plain cottons, they will continue, in my opinion, to enjoy a substantial part of the market and they are still preferred by many people today who place no real premium on improved performance.

MODERATOR WHAM: Would you include some of the new finishing techniques presently being used in this category in the same answer? In other words, we are making tremendous advancements in the new techniques for finishing cottons.

MR. FROEHLING: I think that is essentially what I am referring to when I say the new ones are needed to overcome some of the mistakes of the past.

MODERATOR WHAM: Is there anyone else who would like to speak on that question, on the panel? If not, we'll move on to another question here, to Mr. Lake: What is the future of manmade fibers in the industrial field?

MR. LAKE: I'm going to recognize that, of all the fibers used in the country, as it stands now, about a third of them are going into apparel, about a third into household usage, and about a third into the industrial field. Incidentally, the figures on the industrial field are more than slightly confused by the tremendous abundance that goes into tire cord.

To take another set of figures, you find that of all the fibers used, something of the order of about 25 per cent or more are manmade or synthetic. Now, if you put these things together and try to study them a little bit more, you see that the impact of synthetics in the apparel field has been tremendous.

The impact of synthetics in the household field, I think largely because household fabrics include a good many functional ones, has been somewhat less; and if you pull the tire cord figures out of the figures usually used for the industrial merchandise you find, and I regret this, that the impact of synthetics in the industrial fabrics field has been the least of the three areas.

Now, the reason for this is that glamor and promotion do not help very much in the field of industrial fabrics, that is true; but it is also true that in the field of industrial fabrics you have some very complicated standards to meet. Usually you can refer to them as weight, strength, dollar ratios, but you have these specific engineering standards to meet, and when you bring the economics, the dollar factor, into these ratios, you find that the synthetics today have not met those standards.

The result is that we have made some real improvements and the synthetics have had some real impact in the case of special problems, special cases. I would like to suggest that while the tire cord business has been absolutely enormous business, it is still a very special case. It's seldom that you find an end use where the surface material gets drier and drier and drier, and hotter and hotter all the time it is being used. This is a special case again.

My own feeling is that the economics of the synthetics have got to improve before there is going to be any tremendous impact. I have infinite faith in the chemical companies. I think the economics are going to improve. I don't think that there is any question at all that, partly because of the functional requirements and the functional characteristics of these synthetics and partly the plain arithmetic of the fact that this is the big, unexplored field, I would say the future of synthetics in the industrial fabrics field is extremely rosy indeed. I think it is the biggest opportunity for a real volume expansion.

MODERATOR WHAM: The next question is directed to Walter Guinan: In the face of advances made in the production of manmade fibers, why does your company still produce such large quantities of wool carpeting? (Laughter). And, another part of that question, what technical or other advances would have to be made in order for you to change this relation?

MR. GUINAN: I kind of feel like the Archbishop of England going to Rome. We have a few areas that are very important in this decision. As a matter of fact, about 95 per cent of our production is all wool and we see no immediate change from that. We have three areas that are very important and the first is on the quality level.

I mentioned a while ago our industry had sort of degraded itself, and I need not say it has sunk to a pretty deep low in terms of quality and price line. We think the only way you can make money today is to lead competition or avoid it and that the best way to lose money is to meet it, and that is what is going on in the industry today.

Our quality levels are 75 per cent above the levels of the industry. The industry's average price line is $7.95 at retail, whereas ours is $13.95. Much of the lowering of price and upgrading of style at the same time is through the use of manmade fibers.

The other factor entering into the question is the amount of profit. We have, right now, the biggest-selling product in America, made out of 501 nylon, which is a wonderful product, functionally good; we don't think, as good as wool as a matter of our own testing and appraisal, but in this particular instance this yarn is in short supply.

However, there are many new products being made daily of other things, similar to this. The wholesale price of this particular carpet as first introduced, using this yarn, has gone down about 14 per cent in one year, even though the carpet is in short supply. From what our competitor tells me, based on anticipated competition, in order to reduce the price he had to reduce retail as well as wholesale price brackets. The one went down $1.00 but the other went down $2.00. The retailers lost in gross margin 20 per cent and the other, 14 per cent, and I have a wife, three kids, a mother-in-law and a mortgage too. (laughter).

We think the fiber people can be of tremendous help to us, and I might say we have probably spent more money in proportion to size than any other in the industry, trying to develop the use of our manmade fibers. Our biggest competitor was our biggest supplier. We hoped we could avoid the need for buying a big, costly and probably, in the not-too-distant future, obsolete spinning plant. This didn't happen. We bought the plant and we are running it. We need a lot of help from the fiber producers with the product.

If anything drives me nuts, it's when a young fel-

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low walks in, fresh out of school, and starts telling us that he'll give us three pages of Retailer, half a page of Life, a spot on a Sunday night television show and, "Do you know, if you put nylon shoes on a horse, he can run one-eighth faster than if he had steel shoes?" (laughter).

Our plan is to help Mrs. America beautify her home, and we think there the fiber producers can help us most. Another area is to stop kidding us about the ease of processing new fibers. I took an order in a test city in 1954 for a carpet we thought would be the whirlwind of the future. We don't know how to make it yet (laughter). These people have tried to help us, but the fellow who sells the fiber says, "Don't worry about it, it's a breeze", and we've been breezing ever since (laughter).

I think, in that area, if the fiber producer paid attention to the long life of a sale or product, instead of selling it fast—but those are our problems, that we implore you to help us with. (applause).

MR. FROEHLING: I think the only answer I have to make is that nobody bats a thousand per cent, and you told us we have to improve our batting average.

MODERATOR WHAM: I think the next question is right in this vein: Why would manmade fiber producers interest themselves keenly in the promotion of finished products manufactured by others? Mr. Froehling, I'll pass this on to you.

MR. FROEHLING: Well, I think there are several practical reasons for this interest. First, the fiber producer has a multi-million dollar investment in plant and facilities that manufacture his fiber. In the case of a mill, a loom can weave almost any fiber and can change rapidly from one to the other. The end product manufacturer can make satisfactory end products from a variety of fabrics, and the retailer changes what he sells very rapidly, based more on styling, and color, and promotion, really, than on fiber content.

So the fiber producer's situation is different. His plants basically can manufacture only the products for which they were designed, so no one else in the chain of textile distribution really has quite as great a stake or takes as great a risk. Hence the producer, I think, must take, and has taken, a continuing interest in the total marketing job, because he has to feel assured that consumer satisfaction is really obtained for the fiber that his plant produces, because he needs to have a continuity of production in order to keep his facilities operating.

MODERATOR WHAM: The next question is directed to Mr. Fricker: What is the most important factor, other than price, in merchandising upholstery fabrics?

MR. FRICKER: Price isn't one of the most important factors, I can tell you that. The most important features in the sale of furniture and upholstery fabrics today is style and, in style, the two important features are, first, color and, second, texture. In color, any clean, fresh, clear color with depth will sell. On the other hand, colors that are grayed down, earthy, pastel, or washed-out looking are generally unsuccessful. This has been true in all types of styling, with the possible exception of Early American. There, of course, we do use a certain amount of grayed down, earthy tones.

For example, at the recent Winter Market, we introduced the tri-lobular new, deep-dyed nylons, and the sale of the regular nylons in our line decreased tremendously, for the simple reason that these new fabrics and new yarns had depth of color, new brilliance, new luster, and a desirability that we were not able to get, color-wise, before in other yarns.

Texture of any character is most important, whether it's a bouclé, a slub yarn, a nub yarn, a textured yarn, or a combination of any of these; whether it's a shantung with a thin-lined texture, or a heavy carpet yarn woven into a rough type of texture, texture is the most important thing other than color in an upholstery fabric.

If you take a textured cloth and dye it into a clear-toned color, you have the formula for a successful upholstery fabric, whether it's in a dobby or a jacquard weave.

Another important thing, and becoming more so every day in the merchandising and selling of furniture upholstery fabric, in a big ticket industry, a fancy goods industry such as ours, is the matter of distribution.

I would like to make a point by taking a few name stores, Altman's, Gimbel's, Macy's, Sloane's and Korvette, and there is not one furniture manufacturer in this country who could sell the same product to those five stores, for the simple reason that their merchandising policies are completely different. However, every yarn and fiber supplier sells them all right across the board.

That is something we can't agree with in merchandising. We are not able, in our field, a big ticket item field, to get away with that, and it is hurting us tremendously and we have to take steps to stop it.

There are two areas in which I believe the yarn suppliers could move forward to an increased volume. First, control the minimum qualities permitted to be made out of their yarn. I don't mean a high minimum quality, I just mean, get out of the gutter, get out where the fabric will at least wear a year. There are millions of pieces of furniture sold today in fabrics that couldn't possibly wear a year.

On the other side, we are selling millions of pieces of furniture that you can't clean. I'm a little embarrassed, I mean, and I think the yarn people should be and everybody down the line, to force that type of merchandise on the American public.

Secondly, to restrict the sale of the yarn to people who fit into a sound merchandising plan. For example, if there is a mill that does nothing but copy and knock everybody else off at a real low price and a real low quality level, let's say, sub-standard, they are marginal producers and all they do is irritate the better customers. We think it would be more prudent to, let's say, get rid of the parasitic type of account.

For example, recently, a very fine fiber manufacturer sold us the quality idea of introducing a new yarn. We thought it was wonderful, bought over half a million dollars worth of fabrics from six or seven mills, specifying this yarn. We got it in and even before we got the first roll, we found on the street this same yarn was being sold at the absolute base price in qualities that you couldn't make any cheaper. You couldn't take a pick out and hold it together fast enough to get the latex on it. We don't think this is sound merchandising. Let me assure you, the first yarn supplier to follow a policy of controlled distribution and minimum quality standards we will, as a company, specify their yarns throughout our fabrics to the exclusion of others. I'm sure many others of

our competitors in our industry would do the same thing.

As we see it, the big field in yarns of the immediate future are yarns of textures, textures of all characters, that can be sold at somewhat less price than at present. I didn't say cheap, but somewhat less in price. Yarn manufacturers who can deliver to mills directly without the intermediate cost of throwsters and others would be absolutely amazed at the results, both in flat fabrics and pile fabrics.

MODERATOR WHAM: We want to push along here because we have to or three more questions and our time is running short. Why have not military services made more use of the new synthetic fibers?

DR. KENNEDY: I think some of my predecessors here have answered that question for you. We have tried to keep our trouble in the laboratory and not on the soldier's backs. Aside from that, there are two other important factors and one is that the matter of price—the economics of the situation are such that, for many uses, synthetic fabrics come higher than other fibers that are available; second, there are real problems in doing things on military textiles, which you can do much simpler in civilian textiles.

A while ago, Mrs. Ingersoll mentioned the fact that the combinations of fibers enabled you to obtain results you could not obtain from a single fiber by itself. With us, when we try to dye, for example, two fibers, say, wool and a synthetic, to the same degree of color fastness, it's a difficult problem. In fact, we have been on that problem for three or four years now and have not successfully licked it.

We do try to maintain a uniformity, a high standard of performance. These are problems which must be worked out in the laboratory before we can adopt them.

One further factor, which doesn't involve consumers in the same way it does us, and that is what might be called the lack of balance in the properties of synthetic fibers. From our standpoint, in the Army, and I think it is true in most of the services, we are very much concerned about the temperature reaction of the fibers in our fabrics. Many fibers have disagreeable factors in the melting standpoint and so on.

I think the possibility of synthetic fibers being used in the military services will greatly be enhanced in the course of the next, shall I say, decade, as the revolution in synthetic fibers moves to fibers of still higher properties and still greater performance characteristics, which unquestionably will be the next level of technological developments in synthetic fibers.

MODERATOR WHAM: Just one short question to Mr. Schwartz: Are you ever asked about not having a new fiber and do you feel you might miss business by not having it?

MR. SCHWARTZ: In our early season planning, we are pretty certain that we incorporate in our line the fabrics that we feel are best suited for the coming season. We are very rarely asked for a particular fabric that we do not already have. There is no problem in shifting, in the event we ever do, to sell the customer from one brand name to another. I don't want to disappoint some of the people who are spending a lot of money on brand advertising but we are very rarely asked for a brand name.

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Address by outgoing president CAMERON H. BAKER

AATT What is it How it serves textiles

IT GIVES ME great pleasure indeed, to welcome you here today to the First Annual Conference of the American Association for Textile Technology. This is an historic meeting in the growth of our association. It represents the culmination of a major effort on the part of many loyal members. I cannot begin to express my thanks to those who labored so hard to make this meeting the success that it is.

Through the past two years, the officers and the board of governors of this association have worked to give national status and impetus to our organization. Previous administrations have recognized the need for this move and had laid the groundwork for us. Our meeting today, which is the first annual conference of the national association under our new constitution and by-laws, gives us an opportunity to tell you of our aims and objectives for the future.

The role of the textile technologist in the future of our great industry has been forcefully illustrated in this morning's discussions. We were able to cover two important segments of the industry; the retail trade and the end product manufacturer. In the afternoon sessions, the converters and mill men will give equal prominence to the role of the technologist in their fields of endeavor. This leads to a definition of the textile technologist and an answer to an often asked question as to what the AATT is and what it does.

How AATT Works

For the benefit of our guests, I would like to extract from our Constitution the important objectives of encouraging "in the broadest and most liberal manner the advancement of textile technology", and, the "diffusion of knowledge among technologists". We accomplish these objectives through regular meetings in various parts of the country; through symposiums and conferences, such as this, on a national basis, and, above all, through the establishment of fellowship among our members from all segments of the industry.

This technologist we mention makes up the membership of our Association. The technologist as Webster defines him is "one engaged in the applied arts and sciences". For our association's purposes we further define the technologist as "one actively engaged in the field of applied textile arts and science". Our Association crosses the borders laid down by the complexity of our industry. An analysis has been made to show the actual percentages of our group in the fields of fiber production and supply, other mill supplies (including dyeing and finishing), mill operation, converting, end-product manufacturing, merchandising, retailing and the service industries. Our program committee conducted this analysis to discover interest levels and they drew the conclusion that we have no barriers or select concentrations of interest.

We have an example of this broad interest level in our program today. For the record, let me state that almost one-half of the well informed and learned people engaged in our panel discussions today are active members of our Association. (You can spot them by the slide-rules sticking out of their pockets). You will find these members engaged at all levels in all segments of our industry.

The responsibility our Association has accepted is to satisfy the needs our members have felt in knowing more about the other fellows' problems. We are committed to a meeting of the minds at all levels, including the all important price considerations. You will not find our members as a rule on "Cloud 9", but you will find them working diligently and willingly, to keep someone else up there.

So much for the make-up of our group. I would like to say a word or two about our plans.

Foremost in our future program will be the operation of the Technical Committee. This comittee was established for the express purpose of directing our efforts in the right directions. We crossed the boundaries I mentioned earlier in the formation of this committee. Every segment of the industry is represented in this most important guidance group. Some of their early recommendations to the governing board resulted in the format of today's discussions. We are

Cameron H. Baker

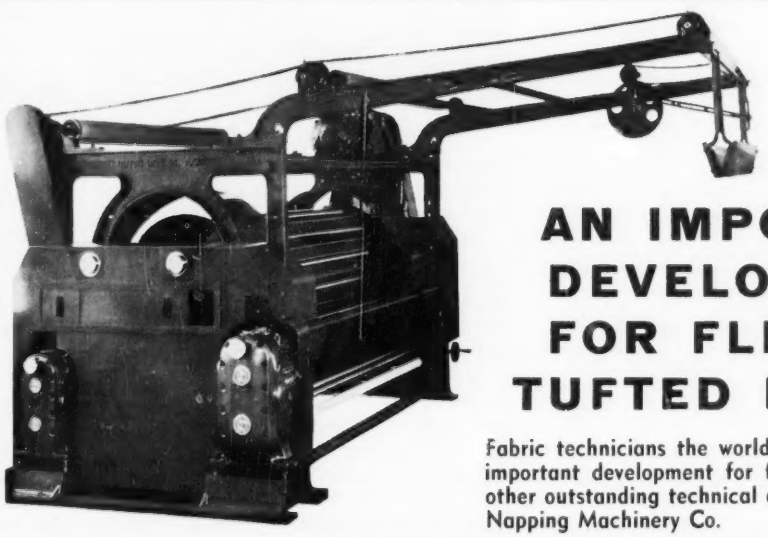
already indebted to this committee and if today's meeting is any indication of their recommendations to come, we are pleased with the future prospects.

The growth of our Association is dependent upon active chapter relations. The Appalachian Chapter was the first to be organized. This group has added to the prestige of our organization and has given us our contact in an area of high concentration of fiber producers. Their members have contributed first hand knowledge of fiber development and have received in return papers on mill and production subjects. The Piedmont Chapter was formed more recently and combines fiber producer interest with a wide variety of manufacturing and merchandising capabilities. The prospect of chapters, including student chapters in our educational institutions is unlimited.

Many of our members, due to geographics, depend to a large measure on our official publication, MODERN TEXTILES MAGAZINE for their contacts with the organization. These memberships extend throughout this country and into many foreign lands. We welcome these memberships, too, and look forward to closer ties and exchanges with our continued growth.

We have in our midst today many management people who may be surveying our work for the first time. We also have many fellow technologists who are potentially active members of our group. In closing I welcome all of you again and at the same time invite the serious consideration of the management people to encourage your technologists to join the AATT for the benefits you will enjoy in your firm, and to the technologist himself. Your membership is waiting.

FOR DISTINGUISHED SERVICE—Cameron A. Baker (right) outgoing president of AATT receives a plaque in recognition of his outstanding service to the Association as president 1959-1960, as vice president, 1957-1958, and as a member of the board of governors 1952-1954. Baker is director of research and development, Better Fabrics Testing Bureau, Inc. The award was made by Kurt J. Winter, incoming president.



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The Blackstone Imperial napper is efficient on ALL types of looped fabrics such as spring needle knitting, latch needle knitting, tricot and also interlock stitch for sweater material.

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Woonsocket, Rhode Island

Luncheon address by J. M. CHEATHAM, president, ACMI

COMPETITION spur to progress

AMERICA'S TEXTILE INDUSTRY has become increasingly a multi-fiber industry. We talk more of fiber blends—blends of the old and the new—to the benefit of the ultimate consumer and of the industry.

Here today you are seeking ways to blend still other ingredients—the interests, the talents and the experience of the management, their merchandising and the technological segments of our industry— not only to the benefit of our customers and our industry but also in the interests of the vitality and growth of our entire national economy.

My subject is "Competition—Spur To Progress", and therein lies a challenge to all three groups represented in this audience. Because the word "spur" is generally associated with cowboys, I feel that I have the necessary literary license to delve back some twenty years into the musical history of our country for my central theme.

All of us remember pleasantly the famous musical, "Oklahoma", which has now assumed a legendary place among the great musical comedies of America.

Written into the production framework of "Oklahoma" was a number for a simple cowboy character named Will, who sang to his friends of the wonders of Kansas City.

He sang of counting "twenty gas buggies almost everywhere he'd go."

Of a skyscraper seven stories high which he said was ". . . 'bout as high's a building ought to grow".

Of being able to turn on a "raddy-ator" whenever you wanted heat.

And "to walk to privies in the rain and never wet your feet".

"They're really up to date in Kansas City", he concluded.

"The folks there have *gone about as fur as they kin go.*"

In that last line of the chorus, delivered with such innocent but erroneous conviction by Will, lies a very serious and exciting challenge to each of us in the textile industry.

There are two impediments to progress.

The first is scoffery, if I may coin a word. The second is complacency.

The scoffer greets each new development with the cry: "It'll never work", and can cite a thousand and one reasons why it won't work. He resists change.

The applauder, full of wonder at the accomplishments of his fellow men, concludes that "This is it! The epitome! The Pinnacle of Accomplishment! Yessir, we've gone about as fur as we kin go!"

About one hundred years before Will's time, back in 1815, the Boston Manufacturing Company in Waltham, Mass., linked a loom to the drive shaft of a water wheel and gave America's textile industry its first powered loom.

J. M. Cheatham

President of Dundee Mills, Griffin, Ga., Cheatham is currently serving the textile industry as president of the American Cotton Manufacturers Institute.

Seventy-eight years later, a workman at Columbia Mills in Columbia, South Carolina, hooked up an electric motor and gave the industry its first electrically powered loom.

In each instance there were, undoubtedly, both scoffers who said it wouldn't work and applauders who said we'd gone about as fur as we could go.

The same was undoubtedly true when the first of the manmade fibers came along in the 1930's, when wrinkle-resistant fabrics were introduced in the 1940's and when drip-dry fabrics came on the market in the 1950's.

And what about today?

The cotton plant breeders are doing some truly marvelous things. The boll weevil is the subject of massive warfare. Huge mechanical pickers harvest the cotton crop. Producers and ginners alike are working to improve not only grade and staple but also what we as manufacturers refer to as fiber spinnability.

We have a great variety of new, manmade fibers, with many more in various stages of development. Our scientists are, at the same time, finding ways to

improve upon nature itself as they probe the physical and chemical properties of the natural fibers.

In our mills, spindle speeds have risen from 10,000 to 13,000 r.p.m. in five years. Drawing frame speeds have jumped from 200 to 750 feet per minute since 1954 and roving frame speeds have skyrocketed from 550 to 1,200 revolutions per minute on the big 14 by 7 package.

Loom speeds in 1930 were 140 to 150 picks per minute. In 1960, they were 180 to 200 and as high as 225 picks per minute. The shuttleless loom works at 230 to 260 picks per minute. Our combers, 20 years ago, processed ten pounds per hour. Now they process 25. Loom beams are twice to three times as large. Warp bobbins carry three times as much yarn as a few years ago.

Stock is moving through our mills at higher and higher speeds and in bigger and bigger packages with more and more automatic controls. We have micronaires, fibrographs and electronic devices to measure weight, uniformity and quality. Our productive efficiency reflects all these marvelous developments.

Variety Is Endless

We have drip dry, self-ironing, soil resistant, water-repellant, rot-resistant, mildew proof, light-weight woolens and heavy-weight cottons; we're laminated, decorated, appreciated and all but detonated; we've moved ginghams from the kitchen to the fashion salon and ducks from the back yard to interior decor; we produce colors, textures and weights in such array as to baffle and bemuse; our fabric designers are pacing the fashion world; we've blended everything in sight.

> As we contemplate the wonders of our modern textile industry
> We find ourselves infused in a warm and comfortable glow
> I'm sure that you'll agree with me
> That we've gone about as fur as we can go.

Or, have we?

Now, if Oklahoma Cowboy Will were to come to that conclusion, we'd excuse his youthful, awestruck innocence.

If we in the textile industry come to that conclusion, we're guilty of smugness and complacency. And, I assure you, this is not the road to progress.

We certainly have not gone as far as we can and must go. That, ladies and gentlemen, is the principal message and the specific challenge which I have for you and for our entire industry.

Just as there are two impediments to progess—scoffery and complacency—so there are two invincible spurs to progress. These are intuition and competition.

Our intuition tells us that to stand still is to stagnate, suffocate and die.

The forces of competition constantly point out to us, sometimes rudely, that if we don't, someone else will.

Let's analyze for a moment some of the forces of competition bearing in on America's textile industry today and every day. They come from three different sources.

The first is from within our own industry. The second is from other industries in our own nation. The third is from abroad.

We have here in America a sprawling textile complex of some 8,000 manufacturing plants in 40 states. Designers, researchers, technicians, spinners, weavers, converters, merchants, retailers—all fiercely competitive. Fiber competes with fiber and fabric with fabric. Our sales, advertising and sales promotion people compete for consumer attention. The result is constant improvement in production efficiency, and ever better style, quality and value for the consumer. The record shows that wholesale textile products prices are seven percent below the 1947-'48 base, while the prices of all manufactured products are 28 percent above that base. I doubt if any major American industry can match this record.

Competition from Plastics, Paper

More and more we are beset by the competitive thrusts of other American industries seeking to enter our traditional textile markets. Notable among these are the plastic and paper industries. We cannot afford for one moment to relax our emphasis of market research—our search for new and better textile products and for new and different uses for existing products—in apparel, in the home, in industry, in the military, in space, and in areas we've never before considered as possible textile markets.

We cannot afford to be so complacent as to concentrate our efforts on selling what we have to the exclusion of seeking and developing new products and new and profitable markets.

A highly regarded magazine for businessmen some months ago carried an article entitled "Marketing Myopia". The article pointed out that there is no such thing, automatically, as a growth industry. The growth industry today may be a dying industry tomorrow unless the leaders of that industry can see beyond their present products and their present markets, and envision the widest possible potential for their industry.

We in the textile business do not, or should not, consider ourselves to be only spinners, weavers or finishers of cotton, silk, wool, rayon, nylon or other fibers. Rather, we should view ourselves as being involved in the more all-encompassing textile business. Perhaps, in our efforts to further raise our sights, we should seek an even broader concept for our industry than textiles.

Search for New Markets

This is the kind of thinking that will keep us from looking myopically at the limits of our product and market research—that will keep us seeking new and profitable frontiers.

Competition—whether in education, athletics or business—has long been a tradition in this country. The record speaks loud and clear that the American textile industry is probably the most competitive in the nation, giving to the consumer the best value for his dollar.

Considering this fact, it doesn't make much sense to import competition from abroad, especially excessive and unfair competition. But that is exactly what is happening.

In addition to competition within our own industry and from other American industries, we are faced in ever increasing volume, with a new and frightening global competition, where the rules of the game are not applied equitably.

Few Americans realize the dramatic and far-reaching changes that have taken place in the patterns of world trade over the past 10 to 15 years. The economic resurgence of western Europe, and the economic

emergence of the underdeveloped nations of Africa and Asia have brought about a vast, world-wide industrial complex not believed possible even a dozen years ago.

Manufacturers in these other nations have a number of competitive advantages. The rates of taxation are much more favorable to business. Wage and fringe benefits costs are lower. Raw materials costs are frequently lower. And their production facilities are often as good as ours.

With their modern production facilities and with their competitive advantages, overseas manufacturers have virtually eliminated us from many foreign markets and are making increasingly greater inroads on our domestic markets.

Price Is the Measure

The old concepts of imports as representing the art and culture of other lands—and the old concepts of foreign trade as the commercial exchange among nations of surplus products for needed products— have rapidly given way to the importation of products in direct competition with domestically produced goods —a competition based on price alone.

Americans have had a great faith in the technological and mass production know-how of American industry.

"The same industrial might which won us World War II", they say, "will stand us in good stead in world economic competition".

The fact of the matter is that—in part through American foreign aid and technical assistance and in part through their own imagination and initiative —many other nations are now in a state of technological advancement equal to, and in some instances superior to, ours.

In gearing ourselves for the intensity of today's global competition, we and our government must constantly remember that *no nation has a patent on progress.*

I will not burden you with statistical proof of the severity of this problem to our industry. Suffice it to say that where we were once a very substantial net exporter of textile products, we are now a very substantial net importer. The jobs, job security and job opportunities of our people are in serious jeopardy. The continued progress of our industry is threatened.

Alertness Needed

It is necessary that our new administration in Washington and the Congress realize that the time has come to balance our concern for the economic progress of other nations with an equal concern for economic growth and expanding job opportunities here at home.

It is our belief that the interests of this industry, of this nation and of the free world will be best served by a realistic system of import quotas, by category and by country, which will assure the orderly expansion of world trade without the disruption of domestic markets. We are working to achieve this goal and in our efforts have the cooperation of all segments of the textile industry.

Competition from any source—when it is based upon production efficiency, style and quality—we will meet. Competition based upon price alone—when that price is, in turn, based upon lower raw material costs and wage levels unlawful in this country—cannot be met through our own devices. It is an inequity created by government and it must be met by government.

We seek no special favors, no subsidies, no grants. Beyond an equitable solution to the inequitable import competition, we in the industry know that our destiny is still largely in our own hands.

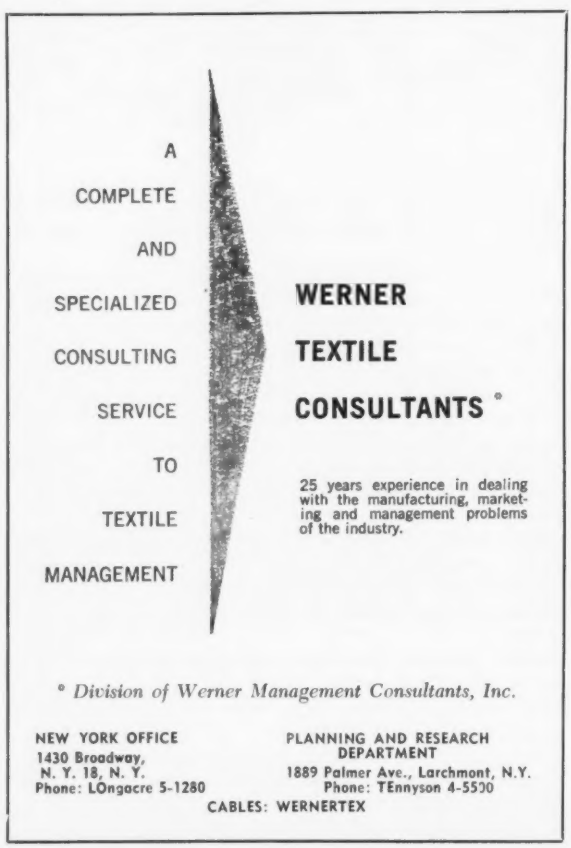
Our future will depend upon imagination, initiative, industry and innovation—none of which are products of complacency.

Have we reduced our costs to the bone? Are there ways in which we can increase our efficiency? Are we devoting our creative talents to the perfection of specific machines when we should be casting an appraising eye on the whole production process? Have we fully explored the market potentials for textile products. Have we turned the potentials of electronics, hydraulics and pneumatics to our full use? Have we made our industry one in which people want to invest their savings or seek careers? Do we know as much as we should know about the physics of each of our fibers? About the additional wonders chemistry can create in fabric finishes? About the personalities of fibers and how they can best complement each other? Efficiency must be coupled with creativity or there is no progress.

We have come a long way in the textile industry. We are proud, and rightfully so, of our modern manufacturing processes; the quality and style of our products: the efficiency and esprit de corps of our people; and the satisfaction of our customers.

Present here today are the forces that together can bring us even further. The cooperation in this mutual goal of management, research and technology, and merchandising is, in my opinion, an irresistible force.

Cowboy Will from Oklahoma might say: "They're really up to date in the textile industry" But we'd never agree that we've "gone as fur as we kin go." ■



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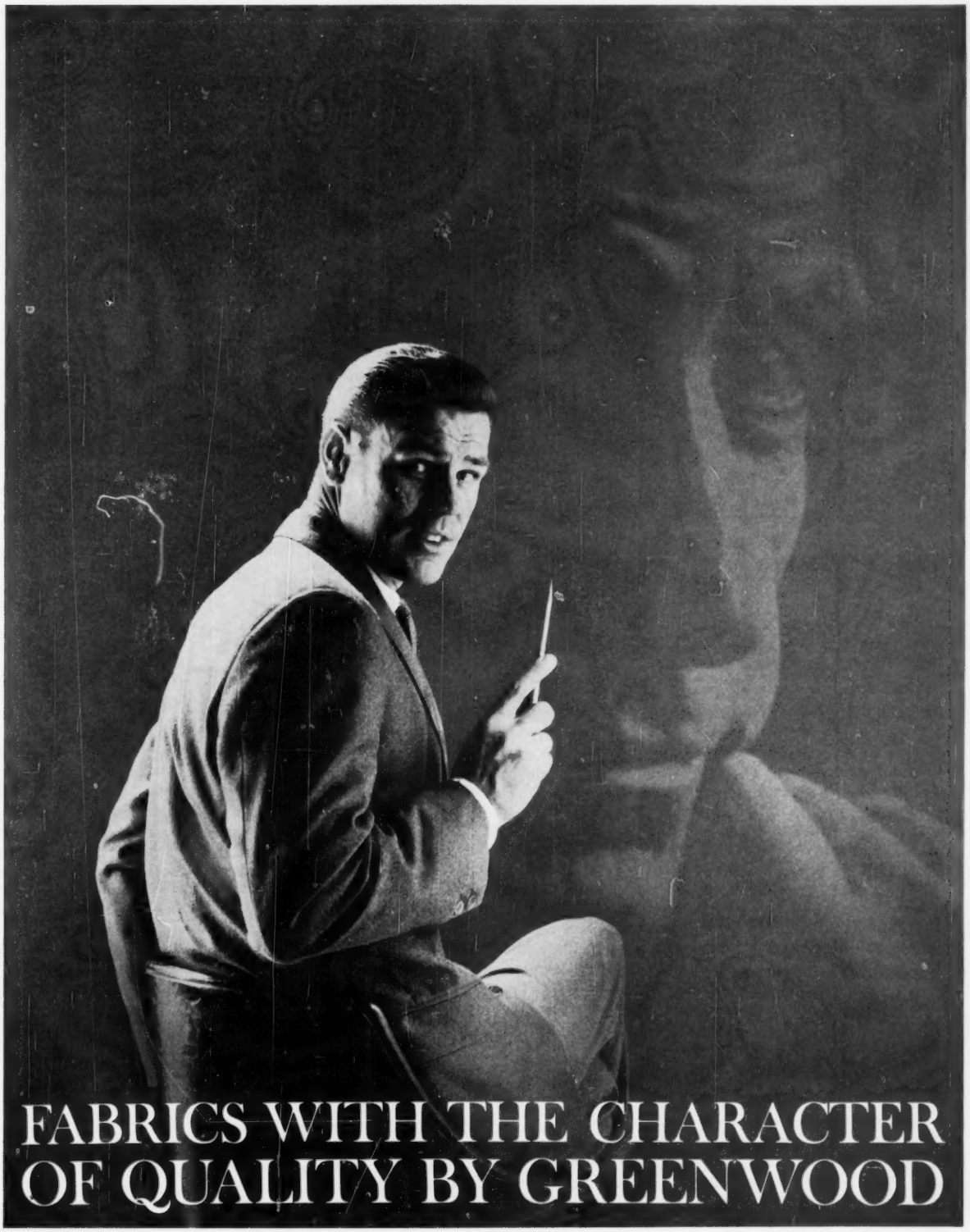


Converter Panel

Introductory Talk

modern fabrics start with the finish

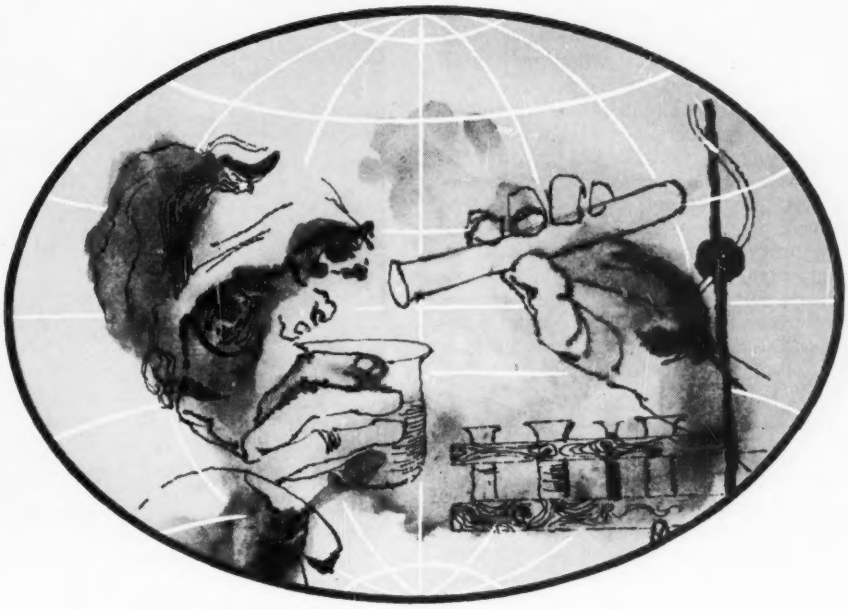
by Abbott Copeland,
VICE PRESIDENT, UNITED MERCHANTS & MANUFACTURERS, INC.

THE TERM "CONVERTING" has an old-fashioned sound but it is a very literal description of what is done in arranging for raw woven fabrics to be processed into finished fabrics for distribution to manufacturers of apparel, decorative, household and industrial products. The converter uses the facilities of processing plants which he does not own, to dye, print or finish raw fabrics in the colors or designs that he specifies.

The converter is a merchant and not a manufacturer. However, he acts as the eyes and ears of the manufacturers who serve him. He interprets to the fiber producers, the weaving mills and the processing plants, his knowledge of markets, style trends, the changing appetites of the consumer and the new shapes of fashion as they are being formed by the many influences which mold them. The converter expresses, in the form of texture, design and color, what his customer will further interpret into the finished product. Since he is not a producer of fibers or a weaver of fabric or a dyer or printer or finisher, the converter has great freedom and scope to choose the fiber he believes is best suited for the end-use he has in mind; to select or conceive fabrics that appeal to his feeling of fashion movements in a way that will best enhance the end product. The converter must be expert in fabric development in order to discuss, on relatively equal terms, the proper weights and constructions with the mill that will do the spinning and weaving. He must have the vision and courage to take risks through buying raw goods and accumulating inventories before making sales. This prophetic vision is sometimes tinged by divine inspiration or often by human error.

Since many of the factors which influence his decisions are not tangible, visible and subject to mathematical accuracy, the converter usually flies by the seat of the pants instinct even though using whatever instruments are available and reliable. The converter must have a sense of seasonal timing and movement of economic events in deciding on the depths of his risks. He must have a strong heart and a strong stomach.

Before the introduction of the new non-cellulosic manmade fibers which started to become significant to the consumer about ten to 15 years ago, the converter of manmade fiber fabrics was able to conduct his business with several basic fabrics which continued from year to year and a few new fabrics launched each season with the hope of gaining recognition and permanence. Of course, colors and print



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designs changed with the constant movement of fashion preference then as they do now. Since the new polyamid, polyester, acrylic and modified cellulosic fibers became recognized as significant and accepted by consumers, the converter's business has become much more complex and also much more dynamic.

The converter has learned that although a fiber may have fine performance characteristics, a certain amount of fabric engineering is required for the effective translation of fiber performance into fabric performance. Then too, only certain blends, certain constructions and certain finishes combine the virtues of performance, aesthetics and cost into a product that has relative consumer value. On top of this, the presence of fabric performance, often accompanied by fiber-producer-supplier identification, advertising and promotion, does not assure the consumer of product performance unless the garment or product manufacturer has taken the necessary measures in cutting, sewing and selection of auxiliary materials.

Converters as Technologists

Since the converter does not operate any manufacturing equipment, he has had to become a synthetic scientist and a pseudo technologist and become superficially articulate in a new world of semantics about which he has only shallow understanding and over which he has little if any production control. He now has to employ people who have had the technical education and training to be reliable in the development and evaluation of his products. He has had to continue to use, much more actively, the technical and scientific facilities available in the organizations of fiber producers, fabric manufacturers and dyeing and finishing plants.

As the identified distributor of finished fabric, the converter is continually being stimulated by advertising, promotion and merchandising incentives of fiber producers, particularly in the early launching stages of a new fiber and occasionally even before all the "bugs" have been worked out of the new fiber and fabric manufacturing techniques. Often he finds that his product manufacturer customers and their retailer customers have also been so stimulated—at times even before the converter has had the opportunity to make certain that his fabric product is right and ready in all respects.

Fiber performance and promotion claims are only some of the relatively new problems with which the converter must conjure. As compensation for these added tensions in this business, the introduction of the many new fibers has served to improve and mature the converting industry by:

Adding new excitements and new opportunities for creativity—new horizons. The fiber producers have contributed many tens of millions of dollars of advertising and promotion pointed toward textile products. This helps to compete with the welter of automobile, cosmetic, drug and food advertising which in the past decade, has drawn much consumer purchasing power from soft goods to other products.

It has nourished the spirit of individualism in an industry that has always followed the leader and by imitation and competition turned many silk purses into sow's ears. In the multiplicity of fibers and blends, there is room for everybody with imagination and courage to express himself.

The strongly sponsored minimum blend levels have elevated quality and performance standards in an industry that has always tended to debase its performance under pressures of cost reduction and intense competition.

Abbott Copeland

It was natural that in the early stages of this new fiber performance and promotional development, we would reproduce many of the old reliable fabrics with the new fibers and achieve a higher level of performance such as dimensional stability, economy in cleaning, wrinkle recovery, pleat retention, greater strength and longer wear life. We should now be emerging from this first phase of fiber and fabric performance development to a new phase with emphasis on the development of aesthetics in fabrics. There must now be an inspired effort and investment in sophistication of weave, texture and finish. Consumers read labels and probably understand them better than we think but they are still moved mainly by the look and touch of fabric.

Imaginative Finishing Needed

We have reached a plateau where performance alone is not enough. A high fidelity phonograph set and good records improve sound, but the music must have good lyrics, verse and orchestration to excite the record buyer. Performance and function are only part of the value of fabrics; they don't express the personality that is attained by imaginative construction, design and beauty of texture and touch. As consumers we like to wear fabrics which are admired because they look and feel good. In the woolen and worsted field, fabrics are: hard finished, soft finished, face finished, unfinished, napped, brushed, teasled, sueded, tickled, nudged, petted and cajoled. These refinements are too often missing in manmade fiber fabrics. We talk in terms of machine washability, wash and wear, shrinkage control, water repellancy, crush resistance, but not in terms of finish refinements like tempered lustre, mellow hand, scroop and bounce, brightness of touch, fullness of body, etc. In the technologically fast-moving world in which we live, fabric performance is soon taken for granted in all manmade fiber products and looses its news appeal quickly.

While we have been busy developing fabric performance in the last decade, producing many cloths that look and feel alike, the Europeans were just as busy enhancing the personality of fabrics by new techniques and finishes. Years ago the German and Italian mills perfected the art of brushing, napping and shearing spun rayon suitings and achieved a velvety face and buttery touch. It then took the American mills years longer to get almost equal results and by the time we came close, the vogue had passed. In texturing nylon and polyester yarns for elasticized stretch fabrics, the Swiss and French seem ahead of us. In fabric embossing and roller engraving for embossing, the Germans have always been ahead of us.

The Europeans have been and still are ahead of us in the art and skill of warp printing. Special equipment for swivel and lappet weaving effects simulating embroidery are commonly known and used in Switzerland, France and Japan but little known and rarely, if at all, used here.

Many new exciting double faced knitting techniques and machines are currently being developed abroad. We must credit the Europeans with great progress in sophistication of style and finish in synthetics and we should more aggressively pursue their techniques. Many of the best creative minds in our industry that are devoted to fiber development might well be pointed in the direction of more fabrication and finishing developments; not just in minor variations on a theme, but in completely new departures. Out of such an effort might come the technique needed to develop more fabric interest and new values in soft goods which in turn would ultimately result in greater sales for manmade fibers and their products.

Converter Panel

Questions & Answers

Panel Members

Walter Ross, president Rosewood Fabrics, Inc.; **Milton Stern,** vice president, Titus, Blatter & Co.; **Fred Fortess,** Celanese Corp.; **Stanley H. Rose,** American Viscose Corp., and **David Travis,** president, Travis Fabrics, Inc. **Arthur Spiro,** vice president, Waumbec Mills, Inc., served as moderator.

MODERATOR SPIRO: Our first question is: Should the responsibility for testing new fiber fabric performance belong to the fiber producer, the dyer or the converter?

MR. TRAVIS: It isn't to whom it should, I know the converters usually take the rap. When the fiber producer comes out with a yarn, he works along a certain channel. We converters don't work along that channel. If we all worked along one channel, the converter would not be needed in the United States. Therefore our ingenuity and our sales ability and our going into different channels is very important; so many of the things that the fiber producers bring up mean nothing to us except as a base.

So the question of fabric performance comes right down to the converter and we usually finish up either

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with the goods or a complaint, or else we have to drop it. I think that the yarn people, the fiber people, are very remiss in their background in bringing out fibers.

MODERATOR SPIRO: Mr. Ross, would you like to comment on that?

MR. ROSS: It's like asking which came first, the chicken or the egg, and we'll always have converters looking for a millenium that never seems to be present but if we were to look at this from the standpoint of the same type of measurement that the AATT looks at problems, I would say the following things:

(1) No fiber producer, not one, has ever sufficiently tested a new fiber before it is marketed (applause).

(2) In listening to Mr. Copeland's address, I was struck by the fact that our European competition seems to be superior in one field, and that is finishing. It seems to me that it is so intrinsically tied into the fiber that the fiber producer in his budget should subsidize and pay more attention to the proper equipment and ability to finish his product.

(3) I feel that the fabric manufacturer, the weaver, has abdicated his position as a weaver. He is today practically a commission weaver for the responsible converter. He accepts practically no responsibility and he gets all of the advertising of the fiber producer by saying this is full of this, that is full of this, and it's hardly merchantable, but if you want us to make it for you we will.

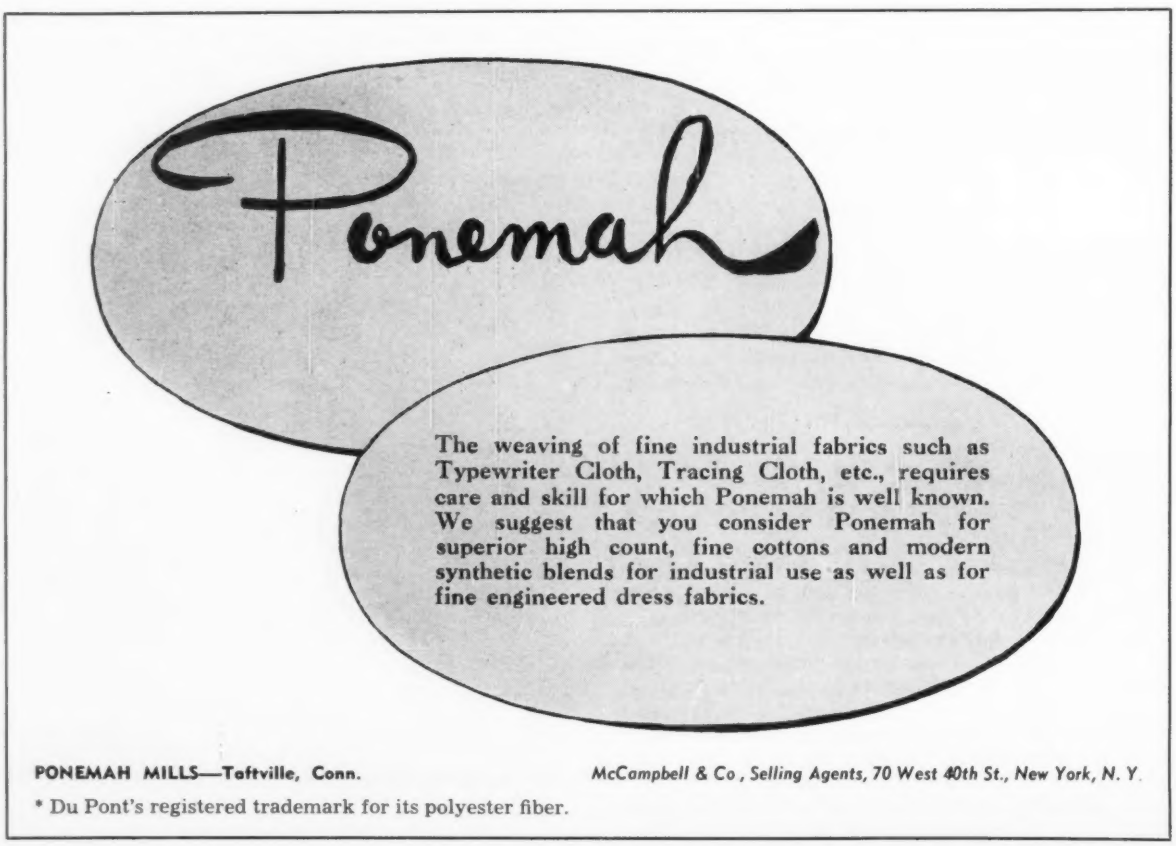
MODERATOR SPIRO: Would you like to comment on this from the standpoint of the drapery converter?

MR. STERN: It was very interesting to learn from our associates they're in the same business, but the problem as it confronts us is quite different.

In reading this conversation, the notes that I made about it, I emphasized the words, "testing new fiber fabrics". I think that is somewhat different from old fibers. We are familiar with those through usage. In the case of new fiber fabric performance, I would say that the converter, being at the next level of sale closest to the consumer, up to that point, should have the responsibility for the testing of the fabric in which the new fibers are used. I believe that the fiber producer should have his responsibility for testing the fiber, not only up to the point of the fiber but also up to the point of the sale of fabric. I think that the manufacturer should have his responsibility and also the dyer. Each should be responsible to the converter for their share of their operation, for testing the product that the converter is paying for. I believe the converter should have the all-over responsibility to the next level of trade.

MR. TRAVIS: In defense of the finishers of the United States, I really think when it comes to the synthetics we have it way over Europe. I try to go there once a year to see what they have, and we are way ahead of them. They make up with cheap prices what we make up in better finishes, and we are far above them in dyes, finishing, performance of the dye, light and wash fastness, and in every sense I really think we are way above them.

MR. ROSS: I guess this is what makes converters. I couldn't disagree with Mr. Travis more. I do feel that we have done much more work with new fibers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in this country and that, as a result of that experience, have been able to dye types of fabrics consisting of polyethylenes, acrylics, et cetera, et cetera, in much greater depth than they have in Europe. But I think that Mr. Travis is misinformed. First of all, the European finisher doesn't do it for a cheap price. He gets a darn good price; and there is an excellent cartel in dyeing and finishing in existence in the whole West European market, that insures he gets a good price.

I think all the techniques Mr. Copeland pointed out have been developed because of the fact that he does get a good price, and he has the ability for research and capital investment. I feel there is a strong lack in the American market of some type of subsidy at the fiber level, to recognize the gap and to understand the plight of the United States dyeing industry, that they haven't got the capital to produce this equipment or to develop or to devote this time to research.

MODERATOR SPIRO: Mr. Fortess, would you like to comment on the responsibility for testing fabric performance from the dyers point of view, and, secondly, with respect to this interesting difference in point of view concerning the competence of the American dyer and finisher versus the European.

MR. FORTESS: Somebody greeted you here by saying "Hi" and Walter Ross by saying "Hello" and then after listening to the conversation, I felt like greeting you by saying "Goodbye" (laughter). This afternoon I wear several hats and the very first one is innocuous because I'm representing the sister organization, the American Association of Textile Chemists and Colorists. When the converter or whoever else pays the bill for performance makes up their mind who will do the testing, at least we want to assure them that it is possible to talk a common language in terms of what is being tested. The ASTM and the AATCC have done a good job of providing test method procedures. Therefore, when you look at the numbers you know you have obtained these numbers with respect to color fastness, washing ability and whatever else, whatever family of properties. It's not just one property but a family of properties that we are concerned with. At least we will be sitting down at the table and talking about data that comes from the same type of test methods in your laboratory, the primary manufacturer laboratory, the dye houses, wherever the testing is being done.

And I think it is an assurance for all of you to know that just in the AATCC there are 90 active technical committees working on every phase of color fastness and wet properties of textile materials and about 500 specialists coming from your organizations participating in this work as a joint, cooperative project. No one gets paid for it. We all have a common interest in this area.

But, even more important, if these test methods are inadequate, then your representatives can come and say, "This test method is not doing the job of assessing the properties we expect in an easy-care fabric or whatever else you want to label your fabrics". When you have made up your mind what per-

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formance levels you will set as standards—and the AATCC does not set standards, we only provide standard test methods.

MODERATOR SPIRO: There seems to be a realization on the part of the converter panelists that they are forced into the position as being the identifiable distributor of the finished fabric, of being responsible to the customer.

This implies responsibility for many processes and techniques over which they have no control and for which they have little facilities. Carrying on further, then, since in the course of the discussion it appears the weaver and the dyer are merely conduits in part and perhaps not rightly so in moving goods from the fiber producer to the converter, what then is the responsibility of the fiber producer, whose performance claims in the national consumer advertising has stimulated the end product sale in the first place?

MR. ROSE: I found out that no one seems to love a fiber producer, and I was beginning to think nobody was even going to speak to him (laughter). I do think the fiber producer has a very definite responsibility. I think the first responsibility of the fiber producer is to offer you a fiber; and we have heard much this morning about the myriad of generic terms and trademarks of all these new fibers, but I wouldn't worry too much about that. I think time, itself, will take care of this problem because any fiber, to stay in the picture for any length of time, wants the promotion and has to stand on its own and make a real contribution.

There are plenty of case histories in industry which prove the point. Whatever happened to the Pierce-Arrow, or the Franklin, or that multi-million dollar flop, the Edsel? So I think the fibers that make the contribution are the fibers that will be here and will stand up to be counted when the smoke blows over.

We have already heard also this morning and again a little bit this afternoon that the fiber producer, because he makes an inexpensive, functional fiber available, has by inference been accused of downgrading the product in the industry. To me, this is like accusing the fire arms industry of causing a crime wave. We make a product available. It goes through a lot of hands before it reaches the consumer. So I say if our responsibility is to provide a good product which can be processed, there are other responsibilities.

I think it is also the responsibility of the fiber producer to provide technical help both in fabric development, in fabric processing and in dyeing and finishing; and I think most of the fiber producers do produce this help.

Finally, in the case of the promotions, themselves, the fiber producer certainly has a responsibility to select fabrics that have been tested for performance and also to select merchandise which at least in his own good opinion and in the opinion of people that he should have on his staff, who are qualified to know, are well made and well styled.

MODERATOR SPIRO: Switching to another subject, within seasonal timing limits, have converters had enough time to work out dyeing and finishing problems on new fiber fabrics before the promotions are settled and the production of greige goods starts to arrive at the dye plant?

MR. ROSS: I would have to knock out the words, "before the promotions are settled" to answer that

Arthur Spiro

question with any degree of accuracy. I find that these things fluctuate. It's like a happy combination. On some new fabrics, a dyer can conquer all the problems and come out in a reasonable length of time. It is certainly not unusual for us to have such a distinct dyeing problem with a new fabric that, by the time we have overcome all the problems, we've lost the season and this fabric then becomes ready for the following season.

This is a difficult thing, in my mind, to pinpoint. It just happens to be a question of lucky circumstance, if the fabric doesn't develop a severe problem. I would say we normally do have sufficient time but there have been many instances in our firm alone—and in discussing it with Dave Travis and Milt Stern the other day here at lunch—they both agreed they have lost fabrics for a season, because they were never able to overcome the technical problem of finishing the fabric correctly in time for that particular season.

MODERATOR SPIRO: Are there any comments?

MR. STERN: I would like to make this comment, I agree in principle with what Mr. Ross had to say, with the exception of the occasion where the fiber producer has a new fiber that came through; it works out wonderfully well in the laboratory. He immediately contacts his promotional department and there are ads appearing on the new fiber before we have time, as converters, to check it out or even before the time that the weaving mill had time to check out the problems. We have had occasions where we intended to be part of such advertising and promotion, and then find we either had to delay the advertising or withold the fabric until the next season. By this time it was more generally offered on the market, so that there are handicaps in that direction.

I believe most fiber producers are aware of this condition by this time. We are hopeful that things like future developments and promotions will be

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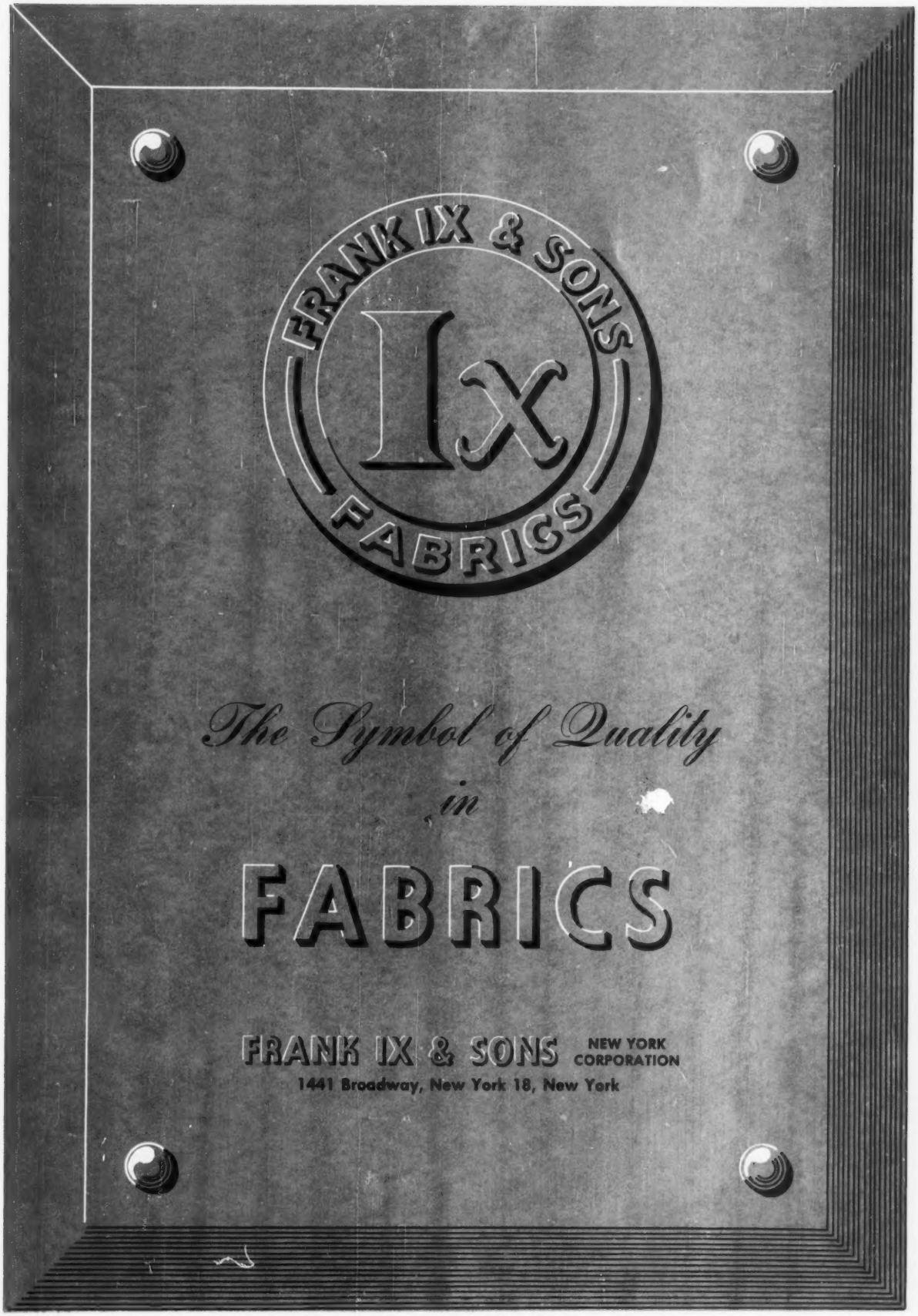
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planned after there has been some practical production.

MODERATOR SPIRO: Mr. Travis, or Mr. Ross, would you care to comment on that? If not, carrying this same subject a little further then, from the standpoint of the dyer, we would like to ask Mr. Fortess whether the dyers have been sufficiently forceful in advising their converter customers of impractical dyeing and finishing requests as they may occur from time to time? And have they been able to develop adequate cost studies before production begins?

MR. FORTESS: If I were a wise man, I'd plead the 5th Amendment. But fools walk in where wise men fear to tread. So I'll wear the dyer's hat for a short time; perhaps I'm in a pretty good position here because I know of no one who can officially represent the dyehouses of the United States. They are a very independent group, it seems perhaps to the point of their own downfall. But since 100 per cent of my time and of 50 people skilled in the art and technology of dyeing and finishing is spent on supporting new fibers and fabrics in the commercial dyehouse, perhaps I can with some objectivity comment on this particular subject.

First, the dyer in the United States has been sufficiently forceful in advising his converter, but not successful. I think we might want to keep that in mind. What happens in the normal course of a dress goods fabric, and it's mostly in ladies' wear, where this problem is sharpest in outline, is that one, two or three pieces of fabric will come to a qualified dyehouse and will be dyed to the texture, the hand and the particular shade required. This fabric is shown around and immediately catches fire. The next thing that the dyer sees is perhaps two, three, four, five thousand yards of the fabric. On the basis of these relatively short averages, he is asked to cost the entire market in this particular fabric, in whites, pastels, mediums and heavy shades. He is asked to give a reliable figure, based on this 2,000 or 3,000 yards of fabric. The dyer is afraid to lose business; so he reduces his risk factor to the point where he may be in jeopardy because perhaps another dyer will give a rock bottom price. So he goes ahead and accepts at a particular price.

What usually happens in the first season is that the difference between five per cent re-dyes or re-treats and ten per cent re-dyes and re-treats is the difference between losing money and making money.

I'm not always sure that the converter is fully aware that the converter is not the only one who is taking a risk when he introduces a new fiber. I've heard of too infrequent instances in which contracts are renegotiated with the dyer for higher prices. I've usually heard of reductions but seldom heard of a renegotiation upward. So you are confronted with a situation where the dyer has been forceful but unsuccessful.

The second part of the question, have they been able to develop adequate cost studies before production begins? For the dyer, on the basis of maybe one season, and this perhaps the beginning of the season, it's almost impossible to accurately cost what the dyer's overhead will be.

So I'm saying that today a little bit more attention should be given to the dyer's problem. In fact, there are too many people in the audience today here who were associated with first-rate

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dyehouses, which no longer exist, mills that were able to do development work and give performance but not able to get a price which would permit them to stay in business. Now they are working for other dyers. I am in the unenviable spot of being the only one on the podium representing the dyer.

MR. TRAVIS: I have two interesting stories, I think, in reference to yarn or fibers, from the yarn producer to the ultimate manufacturer. We agreed not to mention any fiber producers. We had one fiber combined with another fiber. One was new, or they were both new. We sold it to a certain industry. The first sample came up beautifully in white. Then we placed an order for approximately 75,000 yards. I'm coming to the yardage just to show you how true it is. When the goods started to come through, we couldn't get a white. We called the mill, the finishing plant. "This isn't any good". We called the yarn people. The finisher wouldn't allow the yarn man to come in because he wouldn't let him see what was happening in the plant; everything was secret.

In the meantime, we had three ads breaking. They never broke, and we picked it up with the yarn man. The finisher says he can do nothing. The fiber plant, right now, said, "It's the finisher. He didn't call us in". But we have the goods. The coordination between them is very bad. As of the other day, one fiber man said, "Well, we really can't get a good white in that" (laughter). This is after one whole year, so it hasn't finished.

I'm just trying to tell you where we come in. We have the goods, we have paid for it, we have paid for the finishing, and we took all the finished goods back from every manufacturer on the market. We are not worried so much about giving the fiber people a bad name but about ourselves. If they do a bad job and give us promotion, what good does it do us if the fiber doesn't perform as it should? We are the ultimate losers because we have a reputation to uphold.

You can have ten years, you know, of good luck, good business and good reputation. You have one bad deal and you're done (laughter). So we're watching the fiber people far more carefully than ever before.

We have one more instance and this came up right now. A fiber hit the market. In a certain way, we were responsible for that fiber. We were looking for one end use. It so happened that it encompasses many end uses. We were told we could do almost anything with it. As of yesterday, we found it doesn't stand any sun. The fiber man throws up his hands, didn't know anything about it. The weaver, he has a clause, he's out on everything; and the dyer says, "Go to the fiber man, what do you want from us?" But we have the goods and we have paid for it, and where are we?

MODERATOR SPIRO: Mr. Rose, would you like to comment? (Laughter).

MR. ROSE: It certainly shows up the lack of communication. But here we have what I think is a ridiculous situation of Walter Ross telling us that the fiber producers put fibers on the market without properly testing; Mr. Travis tells us that the dyer won't let us into his plant to show him how to finish them. This is not an extraordinary case; it happens all the time. And yet with a new fiber with new characteristics, I don't know how you can ever expect to get satisfactory performance unless you take advantage of the know-how that is available, and sometimes the solution can be very simple.

MODERATOR SPIRO: Go ahead, Mr. Ross, please.

MR. ROSS: I don't intend to back down on my initial statement. I do feel that a large area of fiber performance, responsibility, winds up at the finishing level. I think American weaving industry has made more progress and success in weaving these new fibers than the European weavers. And I think, as I said before, that they have manufactured more new fiber fabrics, in depth, than Europe has.

But whether you will look at it facetiously or not, I would like to ask anybody the following questions: Has pilling been competely eliminated? Has static been completely eliminated? If somebody will get up and say yes, I'll retire.

The reason I point up these two issues is that there is a great level of performance still available at the finishing level for the new fibers; and I think if the fiber producers will recognize that area, we will all make constructive progress.

MODERATOR SPIRO: This question is addressed to Mr. Stern: We have seen much today in the trade advertisements and magazines about washability of drapery fabrics. We would like to know to what extent is washability important in drapery fabrics, and what standards does the industry use?

MR. STERN: I would like to answer the last part of the question first, because it will only take a few seconds. The decorative fabric industry uses Standard L-22, which you all know, is the standard prepared by the American Standards Association. As far as the washability is concerned, washability in drapery fabrics has become of utmost importance during the last few years. The decorative fabrics and drapery industry have gone into mass production, not unlike the garment industry at about the turn of the century, and at popular prices, which is something that didn't exist 15 or 20 years ago.

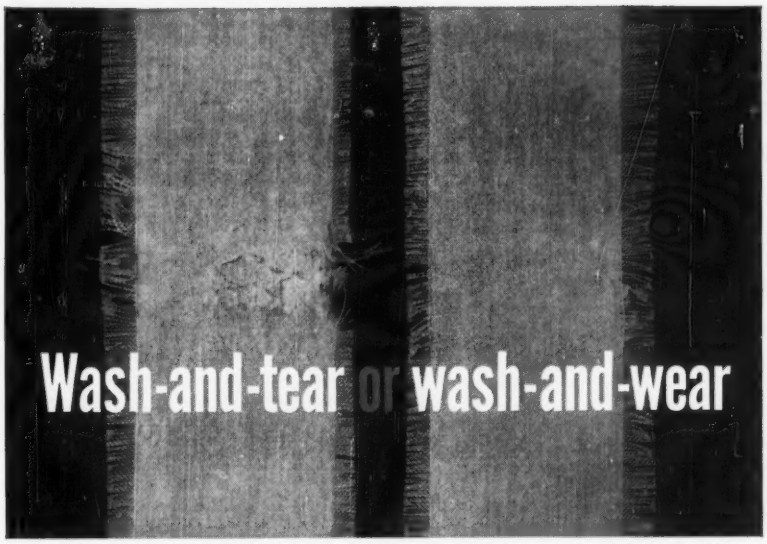
The draperies now are offered to the average Mrs. American Housewife within her normal budget income, and she of course is anxious to have low cost of upkeep, so she can keep her draperies nice and crisp and new. This she does by putting them into the washing machine or washing them in a tub or whatever way the instructions and information is presented. Thus she can always have nice, new, clean draperies, which are different from her mother's, which usually hung on the windows for season after season until they became soiled or worn, because of the high cost of sending them out to the cleaners.

This new practice applies to a great deal of our middle income brackets, which I think today represents the majority of the homes. The advertising promoted by various converters and manufacturers of draperies has become the real volume of our industry.

However, there is another segment of our industry, which is decorative drapery fabrics, which generally sell through the decorative jobber where washability is not so important. It is not important because that class of customer generally does not require washing. She will send them out, and has the money to spend. The draperies are made with tremendous jabots and extra sizes, so usually they will be cleaned on the outside.

However, there is another, new group of all-purpose fabrics, that are offered to the consumer for general use, in slip covers, draperies and what-not. That is pretty much of a new phase and the new

(Continued on page 57)



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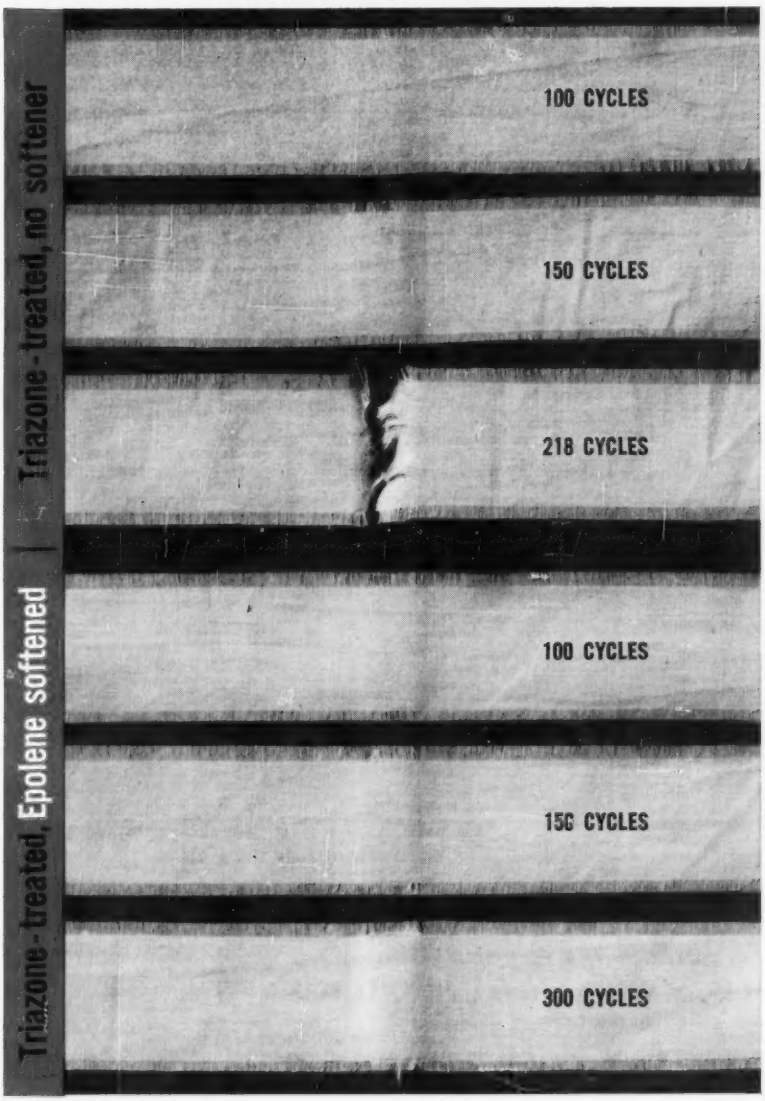

IT is axiomatic in the textile industry that the finishing resin alone does not a wash-and-wear fabric make. In fact, the variables are many, and often complex.

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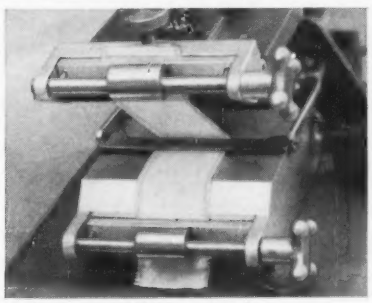

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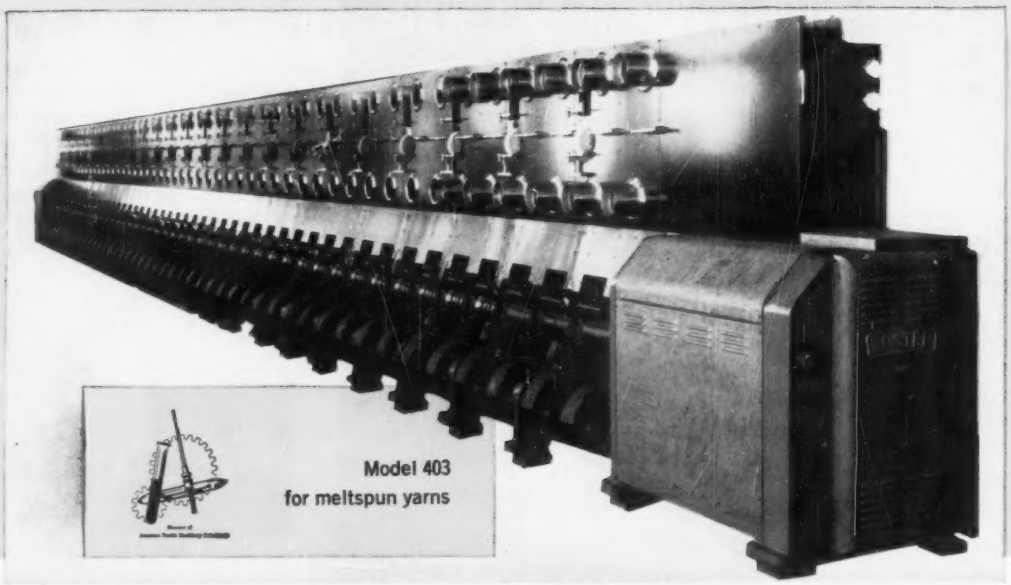

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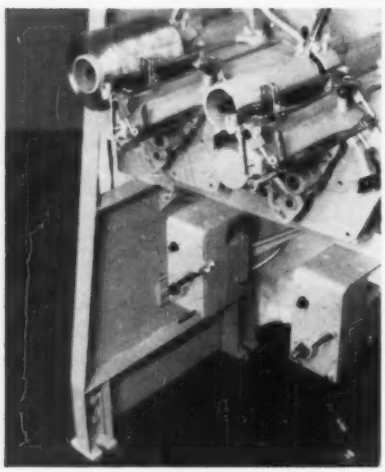

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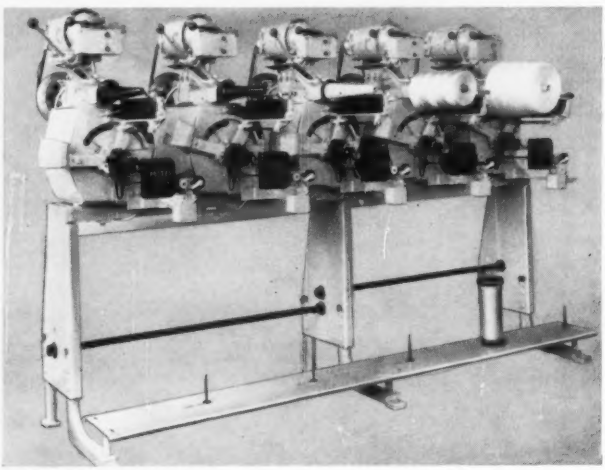

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(Continued from page 54)

fibers are particularly important in that classification because they will encompass the washability, for the customer for any use.

MODERATOR SPIRO: Mr. Copeland and Mr. Cheatham both stressed in their remarks today the creative opportunities in the textile business. I should like to ask Mr. Ross whether converters have sacrificed their traditional creativity by making fabrics with the same look and feel out of different new fibers and relying upon producer-supplied promotion to sell the goods.

MR. ROSS: I think, in all fairness, the answer to that question is yes and no. Yes, in the respect that—and justifiably so—when a producer comes out with a new competitive fiber, it would be the most logical thing for that producer or for the customer of that new fiber, to make accepted, basic constructions in the industry and use the promotion to sell that fabric. On the other hand I think in the long run the real future of all new fibers, because when it boils down to a laboratory test—they are all going to develop pretty good performance—is going to rest on aesthetics and creativity.

In the initial promotion of a new fiber, you must not hastily jump to the conclusion that every converter is just running down the line, picking up the new fiber in an accepted construction to take advantage of the promotional activities that are available by the producer. It's a natural reaction and certain converters have been more aggressive than other converters in developing niches for themselves with particular fibers. Other converters feel that this might be their opportunity to enter that staple market by the very fact that they have another fiber to talk about. But in the long run I think the converter who is going to stand up and be counted as a man is going to have to develop creativity, ingenuity, aesthetics, something that has something more to sell, as Mr. Copeland said, than just performance.

MODERATOR SPIRO: In the interests of time and with due respect to our most enthusiastic panel, I would like to move ahead without comments to conclude some of the interesting questions we still have. Do you find it is necessary for a converter to carry fabrics with four or five different polyester, acrylic and modified cellulosic fibers each? Or do you believe that individual converters will soon develop an allegiance to one or two of each of these types for styling their own lines?

MR. TRAVIS: There will be allegiance to certain fibers and certain fabrics. You can not run them all. Nobody has them, not even Burlington or Walter Ross (laughter). You know, when nylon first came out, there was no point for comparison. Anything you brought out would sell. I can prove it. The finisher was right, the weaver was right, even Du Pont was right. Everybody was right. No names. And now when you bring out a fiber, there is a point of comparison. You must be a little bit better and it's very hard. Although our whole business is based on synthetics in some manner, shape or form, or combinations, we can not run them all; it's just an impossibility. So we pick out the standards we have, and we have them. You can't drop one thing to pick up another, you don't gain anything and, as a matter of fact, you lose. You can't sit in more than one chair at one time. So we're trying to pick out just a few fibers and stay with them.

MODERATOR SPIRO: Would you comment on what the future of the small converter is in the more complicated technological development of the new fiber fabrics?

MR. ROSS: In the vast complex, that is, the result of the introduction of so many new fibers, it's a natural result that the business should become more complicated. I feel that this is basically an aid to the larger converter, who has more assets at his command, to indulge in more fabrics. On the other hand, I also feel that the introduction of new fibers has opened up the field of individual creativity to such an extent that if a smaller converter makes up his mind which way he wants to go, that he has a better chance today than he did before the introduction of new fibers.

Moderator's Summary Remarks

THANK YOU GENTLEMEN, for your forthright enthusiasm in discussing the many provocative questions we have placed before you. The converter and commission dyer have many new problems and opportunities as a result of the great influx of man-made fibers. Perhaps the problems and the resulting confusion have made it difficult to take full advantage of the potential opportunities. On the other hand, the principal function of the converter is creativity in styling and merchandising; we hope that by openly discussing some of the problems brought about by the many new manmade fibers, we can better resolve them and then concentrate more on fabric creativity.

We did not hope to solve all our problems in this discussion today but we hope that the remarks of our distinguished speaker and panelists will be given full consideration by the textile industry in an effort to move ahead to a brighter future.

Introductory Talk *Mill Operations Panel*

How mills can best utilize MODERN FIBER TECHNOLOGY

by Robert M. Cushman,
EXECUTIVE VICE PRESIDENT, AMEROTRON CO.

THE CHALLENGE of modern fiber technology from the standpoint of manufacturing is the subject of this discussion. All present are familiar with the fact that this covers a very wide scope of activity with a broad range of fibers available. The increasing numbers of fibers that are being produced are causing major manufacturing problems particularly in the embryonic or early stages of development. We have several classes of fibers such as acrylic or modacrylic, polyesters, rayons, acetates, nylons, olefins, glass fibers, saran, azlon, nitril, rubber, spandex, vinal, vinyon and metallic yarns. One can readily recognize that, by blending these with natural fibers and with one another, we can almost have an insurmountable number of different yarns and different blends unless carefully controlled planning and styling weigh heavily in the usage of these fibers.

It is presumed that manmade raw materials because of controlled manufacturing should attain uniformity and standardization impossible in natural fibers. This would simplify manufacturing processes. The long range future of the textile business will be influenced by developments that are being carried out today in fiber technology.

We must recognize the importance of the manmade fibers today. One of the largest textile producing operations in the world recently announced that of their total sales the manmade fibers represented 55%, Cotton 25% and Wool 20%. We further recognize that all of us who are interested in the textile industry must be prepared to effectively use these manmade fibers.

In recognizing the basic needs of the mills, we would not specify a given fiber; but we would designate the properties that are required for us to do an effective job with a given yarn or fiber. First of all, it must have characteristics that are desirable from the standpoint of fabrication; then we must have a product that is suitable for manufacturing with a minimum amount of problems. We must have a fiber that is uniform in denier and staple. We must have one that has the proper finish and has uniform quantity of finish. Further it must be capable of being dyed and finished and properly styled with a minimum amount of trouble. This applies to the fiber itself or to filament yarns.

You can easily recognize that fiber confusion can become evident in a given mill or group of mills when the mills are called upon to run too many different blends or different types of fibers. You can recognize the predicament of an organization that has a limited number of mills where they are trying to run the range of these fibers. Further you can recognize that

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- NO SQUEEZE OR PINCH ACTION
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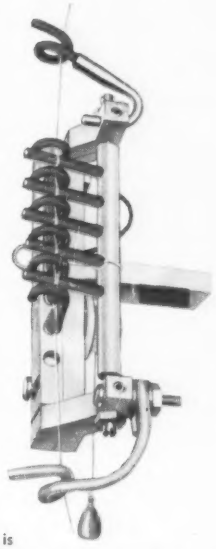

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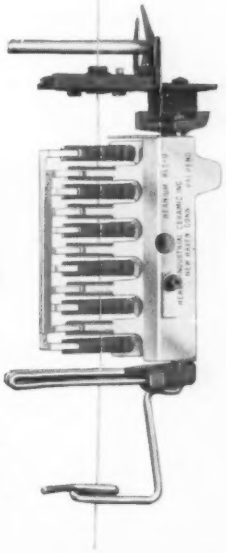

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some problems may exist in the cooperative effort with the manufacturers due to the fact that they are trying to introduce new products wherein your manufacturing capabilities have already been absorbed by the existing fibers.

We feel that from the standpoint of manufacturing we must have clear cut planning and scheduling as well as definite styling in order that we can minimize the problems that take place in the manufacturing plant. It is recognized that the more nearly perfect and more uniform the product the better able we are to cope with it and to produce fabrics that are of the desired type and suitable for the desired end usage.

Suppose we outline the basic problems that we would anticipate in manufacturing with two types of products; namely, a staple and a filament yarn. The mill problems that we note with staples are usually caused by some of the following items:

1. Improper cut.
2. Improper finish producing static or damage to machinery.
3. Lack of uniformity of finish.
4. Poor processing due to lack of knowledge of optimum speeds and machinery settings.
5. Drafting properties.
6. Poor slashing resulting in abnormal weaving and improper quality.
7. Difficulties in dyeing and finishing.
8. Inability to stabilize fabrics.
9. Overall mill contamination by blend ranges.

The problems that will arise with filament yarns during manufacturing are most likely to fall into the following group:

1. Variation in denier size.
2. Improper finish resulting in static conditions.
3. Lack of uniformity of finish.
4. Need of machinery changes from the standpoint of yarn contact points and speeds.
5. Static condition causing abnormal attraction for dirt.

Robert M. Cushman

6. Improper slashing resulting in poor weaving and abnormal fabric quality.
7. Abnormal dyeing and finishing.
8. Warp streak condition.
9. Filling band condition.
10. Uneven shrinkage.

Experience has shown that the best production from manmade fibers can only be obtained if the plant is properly air-conditioned with controlled temperature and humidity. In many localities it would further require electro-static air cleaning in order to have satisfactory clean fabric. Fabric processed from either spun or filament manmade fibers often require special finishing after dyeing. The anti-static finishes are very important on some of the newer fibers.

The fiber producers and the manufacurers must arrive at proper solutions to the above problems before going into large scale manufacturing in order to have a proper end product with a controlled cost.

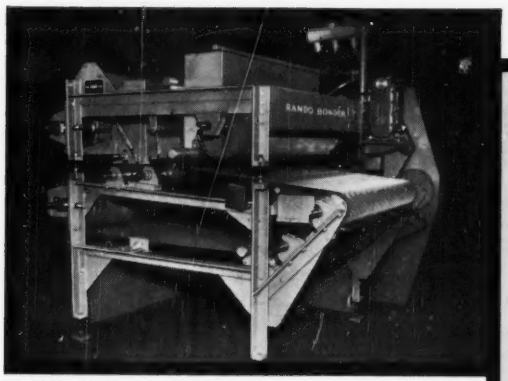
Fiber experience—practically all of the textile plants working with man-made fibers have experienced certain difficulties in the early days with each and every one of these fibers. Practically all of these fibers or yarns have been sent back to the laboratory for property modifications in order to give desirable end products and in order to give better processing qualities. We think this is an important point for the fiber producer to remember because we recognize that during this stage of fiber development that the textile manufacturer usually incurs considerable expense for which he is often not reimbursed.

Suppose that we look toward the successful textile manufacturer. We recognize that he must of necessity be open-minded and be willing to progress with new fibers and yarns. He must, of course, carry out his exploratory work slowly and carefully. evaluating the properties of the materials in order that his merchandising can evaluate the basic end products. From the standpoint of manufacturing problems, we recognize that they are of a serious magnitude to the manufacturer; however, his problems are often not as serious as those of merchandising in developing the proper end usage.

Best results can be obtained in the processing and developing of the existing and new fibers by having a joint understanding between the manufacturer and the fiber producer as to their respective responsibilities.

The needs of our mills have been met for the time being with the number of fibers that are available. We believe the mills need a moratorium on new fibers for a reasonable period of time. We need to fully recognize the properties of the present fibers that are available, to work with the producers in order to produce the greatest degree of uniformity and consistency of their product so that we can effectively style these fibers for the best usage. We recognize that many chemical producers are working with the possibility of developing new types of fibers and we would not attempt to hold back progress, but it is our feeling that if these new fibers and yarns were delayed for a reasonable period of time, the mills would be in a better position to evaluate and do a better job with them.

Manmade fibers must produce fabrics with good trade acceptance. When the producer and manufacturer have overcome the problems, then we should be able to deliver to the ultimate consumer a wide variation of fabrics having styling appearance, utility and serviceability. ■



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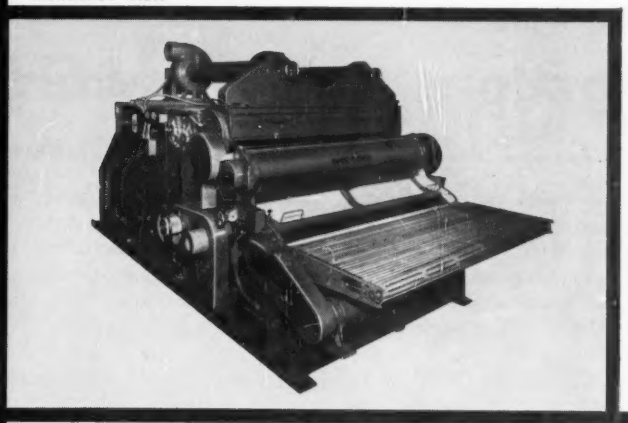

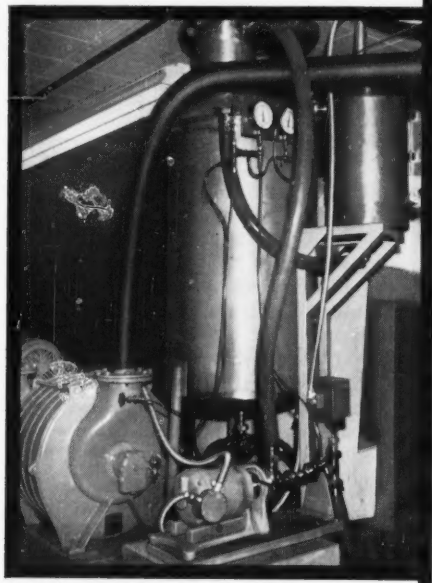

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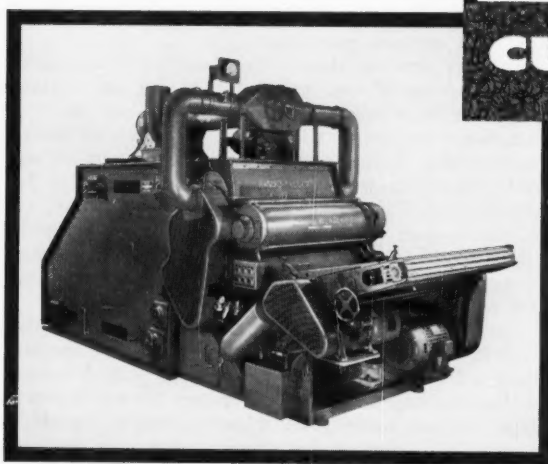

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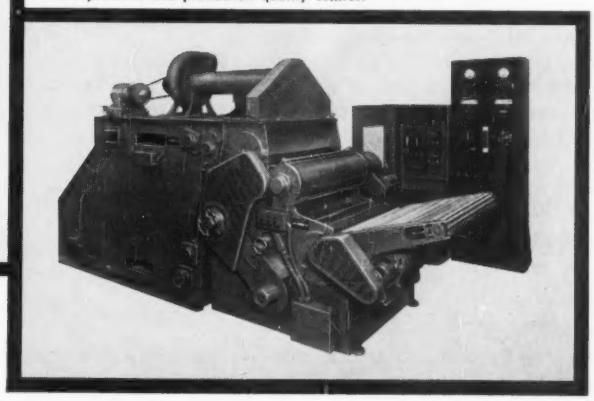

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Questions and Answers

Panel Members

George Asnip, president, worsted manufacturing division, Deering-Milliken Co., Inc.; **G. M. Shipman**, technical department, synthetics division, J. P. Stevens & Co., Inc.; **Max Thal**, president, Alamac Knitting Mills, Inc.; **Michael Strub, Jr.**, manager, technical processing, Duplan Co.; **Joseph C. Haufe**, manager, non-woven fabrics division, Wellington Sears, Inc.: **Amos Griffin**, director of merchandising, textile division, Eastman Chemical Products Co., Inc. **Stanley Backer**, Asst. Professor of Mechanical Engineering, Massachusetts Inst. of Technology, served as Moderator.

MODERATOR BACKER: I think we have heard and seen this afternoon and this morning a certain amount of sawing and measuring, but I think it was up to Mr. Cushman to nail the lid on the coffin on the question of new fibers and their impact on the industry. I think, however, we should pause for a moment and turn to Mr. Griffin for a muffled voice from within that coffin. I don't think the content is as yet dead. I think it's a live subject, one we would like to continue even though we would like to cut down on the difficulties that we face at the present time.

Mr. Griffin, along the line of the suggestion that we have a moratorium, we might ask the following question or questions: Specifically, what motivates a fiber company to bring out a new fiber? Is it because they have the chemical capacity, or is it a by-product of other chemical operations, or has market research demonstrated there is a consumer need for the new fiber?

MR. GRIFFIN: First, let me say that, after listening to the previous panel speaking, as a member of a producing industry, I have a strange feeling this party is on us. Also, of course, I would like to point out that I think nobody realizes any better than we there is no shortage of new fibers either qualitatively or quantitatively.

However, Mr. Cushman suggested a moratorium on new fibers. I must express the opinion that I don't think this is likely to occur. Specifically, may we ask what motivates a fiber company to bring out a new fiber? Speaking on behalf of Eastman, I can't speak for the industry, but I can say very clearly, specifically, it is the determination of a market that can be sold profitably. It is not because a new fiber is a by-product of another process; not because we have a unique position in some raw material or because we have unique machinery. It is because in our opinion a fiber can be sold profitably.

That of course brings us to market research, which is a very important tool in the determination of this important factor. We rely greatly on market research. That doesn't mean that we or the other producers are always right; but at least in our best judgment our market research indicates that there is a market which can be sold at a profit.

MODERATOR BACKER: Mr. Shipman, would you care to comment on this?

MR. SHIPMAN: I certainly agree that a favorable picture is a very good incentive for bringing out a new fiber and probably the most important. I would look a little further back, and I would suggest that it is our impression that the fiber producers are continually searching for something new, or looking at many polymers. Every once in a while they come up with one that does look good and that the exploitation of an invention or a little milder development of an invention becomes very important in the reasons for bringing out a new fiber.

MR. ASNIP: I certainly agree with Mr. Griffin with regard to the profit motive. I have always had in mind that there is no other excuse for business than a profit. I think, however, it is necessary for us to assure ourselves that we have a profit. It is difficult to estimate the profitability of an enterprise before it has been brought into being. I think that most assuredly if this has been done correctly and the profit motive is established and the profit is there, then this is a good reason.

I would say,however, that there is a responsibility, that is also coincident with the profit, that the product be one which has been to the fullest extent developed in all of its aspects, so that the ultimate consumer will get something that is also profitable to him.

MODERATOR BACKER: I might say for your edification that we have broken down the questions that have been formulated on this mill operations panel into questions which relate to the impact of manmade fibers on process problems and product or product development programs within the mill and, finally, on mill operations. What I'll do to facilitate a quick grasp of the questions, is to simply tick off what the basic element of the question is, whether it's a process or a product question.

I might also say that in this case we'll ask each of the members of our panel to answer the question from his viewpoint. I think you can see from the program that we have several different sections of the industry, in some cases sections that do not meet each other except on a platform of this sort in a broad-gauged program such as we have today, such as non-woven in one case versus throwster, in another case. The different viewpoints are expressed from the particular and individual vantage points of the industry.

Can all or most fibers in a generic classification, such as polyester or acrylic, be processed in the same manner? If not, what are the most practical methods of determining the best procedures for each yarn or fiber? What basic fiber characteristics should be known to determine the proper processing methods?

MR. SHIPMAN: I'm sure everyone in this group realizes, each fiber within a generic classification and, indeed, many modifications of a fiber under the same trade name, must be processed under different machinery settings and conditions and sometimes for

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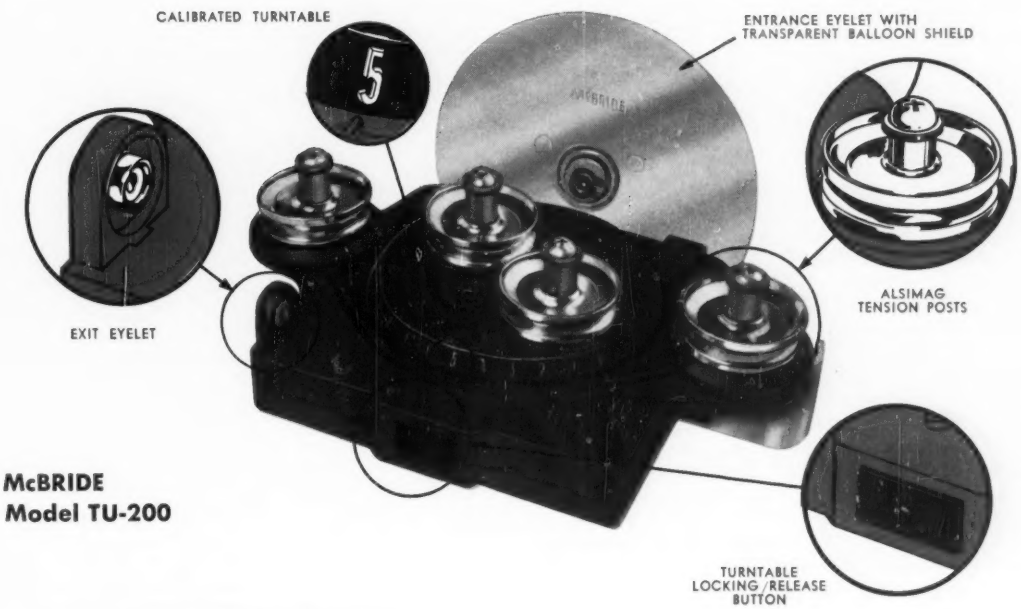

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different fabric constructions, resulting from variations in fiber characteristics.

We can say, then, with emphasis, that no two fibers can be processed exactly alike. To be sure, we use the same general machinery for many different yarns and fibers and for fiber blends. But such things as relative humidity, temperature machine settings, tensions, speeds, twists and so forth change as the type of fiber changes. J. P. Stevens and other companies maintain a group of technically-qualified personnel, whose responsibility is to provide manufacturing locations, with adequate information concerning each fiber so it may be processed correctly when it enters the mill.

Our primary sources for this information are technical discussions with the fiber producer, technical bulletins published by the fiber producer, trade journals or magazines such as Modern Textiles, discussions with representatives of allied industries such as dyestuff manufacturers, sizing material suppliers, textile chemicals and machinery manufacturers.

Before a fiber is started in this processing, this technical group also has laboratory analyses made to determine the physical characteristics pertinent to setting up processing procedures. These laboratory studies do not have to be extensive but do help to determine the optimum conditions, machine settings, procedures of manufacturing, so that little or nothing is left to chance once the fiber or yarn enters the mill.

As far as fiber characteristics are concerned, probably the most important physical characteristic of a continuous filament yarn is its stress-strain behavior, which may be characterized by a hysteresis curve. This is nothing more than a picture of the load or force necessary to elongate or stretch it to the breaking point. When this is determined, it is then known how much tension can be applied in the yarn in processing without stretching it; and also how much tension was applied, if a break occurs. With this knowledge, a satisfactory fabric appearance is assured if instructions are followed.

It is also very helpful to note yarn shrinkage characteristics in order to construct the proper griege width of fabric to result in a specified finish or to take advantage of differences in shrinkage if a surface characteristic such as pucker is desired. This analysis may also be extended to determining the uniformity or non-uniformity of shrinkage from the outside or middle to the inside of the package. Some packages have apparent non-uniformities because of their shape and variation of density from one section to another. This is particularly noted in fibers such as nylon and polyesters.

Once a yarn has been processed and the fabric woven, it is very difficult to distinguish between defects such as tied ends or tight picks, which are caused by tension variations, and those which have been caused by shrinkage variables. It is important, therefore, to note shrinkage characteristics and variables of a yarn before it is processed.

In order to obtain the desired type of weight and as an important item of cost calculations, the average denier of yarn must be known. Also, it is important to determine tensile strength, particularly where fabric specifications require certain strengths. In modern fiber technology several different cross-sectional shapes have emerged which are no longer associated with a round spinerette hole. To be sure, we have had different fiber cross-sectional shapes in the past, but they were usually associated with fiber identification.

Stanley Backer

In order to determine optimum twist setting conditions, processing procedures and for positive fiber identification, it is necessary then to know the shape of the filament cross-sections; the number of filaments also becomes important, and the setting conditions, fabric hand and so forth. It is necessary to know the moisture regains in a mill in predicting how long the yarn should be aged.

Finally, a great deal of weeping and gnashing of teeth sometimes could be avoided if it could be determined the finish on the yarn is compatible with the sizing materials or spinning lubricants that are to be used. Actually, we try to provide this information for our operators, with a conviction that an informed operator is much less likely to make an unauthorized change than one who has not been given the reasons for the procedures and processes that were set up. One item the operators inform us of in turn is, if the mechanical quality of the yarn is poor, we can forget all the characteristics I've described and start over again from scratch (laughter).

MODERATOR BACKER: May we have comments from others? In particular, I'm not quite sure whether this point was specifically handed down as to whether all the fibers in the generic area or classification, such as polyester or acrylic, can be processed in the same manner. Did you mean all fibers, even though they are in the same generic classification, have to be treated differently?

MR. SHIPMAN: Yes. As a matter of fact, even different modifications of a fiber, under the same trade name often have to be treated differently.

MR. ASNIP: I think it is important to emphasize, although we have a family of fibers, the individuals within the family have their own special characteristics and they are different and must be treated differently and processed differently.

I would like to pick up on the question of the most practical methods of determining the best procedures

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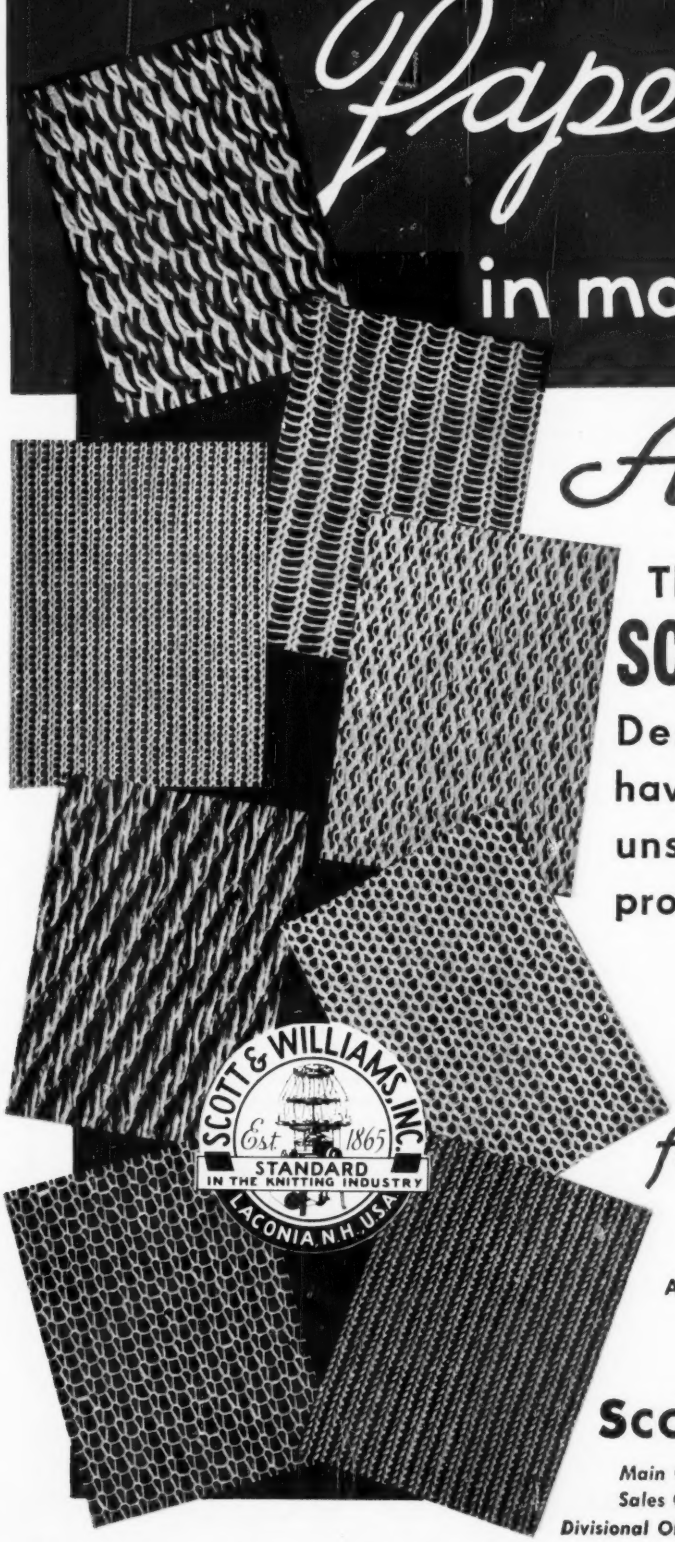

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for each yarn and fiber. I believe that is a prime responsibility of a fiber producer, to have explored completely the characteristics of the fiber and to have this information available for the processors of their particular fiber. This is a responsibility, it is a necessity, and it is a must; and the best source of information for these characteristics is the producer of the fiber.

MR. GRIFFIN: I agree with Mr. Asnip, the producer certainly has a responsibility to develop a great deal of technical knowledge and, of course, a lot of effort is spent in that direction. You said we should talk about these problems from where we sit, our own chairs. I would like to emphasize, there are an awful lot of bulletins and technical papers issued which are extremely useful. But I don't think anything replaces personal contact, and I'm talking about personal contact particularly among the technical people at the mill level. There are, I'm sure, other contacts at other levels but this thing, to our way of thinking, is vitally important in personal contact and discussion, to open full discussion to the problems that exist in turn.

MODERATOR BACKER: From the knitter's point of view, Mr. Thal?

MR. THAL: Yes, I agree with Mr. Griffin, there is no positive set of rules that can be followed in these circumstances. There is a lot of information available from the yarn producers, but I think the mill has to keep constant watch and actually watch the daily production, to make sure nothing goes wrong because things certainly can go wrong from day to day.

MODERATOR BACKER: Let's jump from woven and knit fabrics to nonwovens. We won't argue the merit of the name, we are all nonwoven, presumably. A process question: What improvements in fiber properties are considered desirable for application in nonwoven products and processes?

MR. HAUFE: For the benefit of those who may not be familiar with the nonwoven industry, (and we agree that the generic term is perhaps not descriptive of the industry at all) some background should be given to illustrate briefly the type of equipment that nonwovens have produced.

First of all, there are basically three processes or procedures for producing nonwoven (webs). They have been referred to as the interlay random web, cross-lay web and the uni-directional web. Products produced on this process are also described as dry web processed goods, this to differentiate between the wet process, which is the production of nonwoven fabrics on modified paper equipment. Incidentally, this is a field which is showing considerable activity over the last several years, and one the whole industry is watching carefully to see what direction it will pursue.

To get back to the question, manufacturing of nonwoven fabrics in the U.S. has perhaps been going on for ten or 12 years. It is an industry that relies upon the fiber producers, to make available those types of fibers that the industry requires. The production of dry processed nonwovens—is a textile operation up to a point. Then we leave the textile field and enter into the chemical field. Therefore, any consideration of fiber improvements should, I believe, be on the basis of their compatibility and their workability, their performance characteristics, when combined with the chemical latices of one type or another.

The industry is very young. By no means have we utilized all of the benefits, all of the properties that exist in a multiplicity of fibers that are available today. On the other hand, it is not a textile operation so therefore our problems are different. We have the complexities of the textile operation and the further complexities of a chemical operation, so therefore there are some fiber requirements that, I believe, the nonwoven industry would like to see something done about.

The first one would be fiber improvements, which are aimed at better fiber cohesion, with improved extensibility, both dry and wet. Now, there is one other area of fiber binder adhesion which is of interest and, of course, it is recognized that in this area the performance of the binder plays a large part.

These are some of the things that nonwoven producers are interested in and, incidentally, we think that this is a type of a program that should be worked out between the fiber producers and the chemical people as well as nonwoven producers and others.

MODERATOR BACKER: This suggests another type of question as to what conventional textile fiber properties can the nonwoven producer do without and still maintain high quality in engineered construction? What can be thrown away and perhaps allow you to get the fiber at a cheaper rate?

MR. HAUFE: This ties in with the previous question since once again, I repeat, it's not a textile operation, it's a combination of the two. So therefore it's quite obvious that there may be some physical characteristics of synthetic fibers today that are not absolutely necessary. This, of course, is determined on the basis of the product, the market for which it is engineered.

In this respect we would think that, if consideration were given to fiber improvements, specifically for the industry, that there is no doubt that there are areas of fiber characteristics for the conventional textile industry that are of little interest to us or to the industry. It's entirely possible that specifically engineered fabrics, made on the dry or the wet process, can be produced and engineered at very definite applications that might not require some of the characteristics that are required by the conventional textile industry.

MODERATOR BACKER: A question on process: What are the most serious problems encountered in manufacturing when attempting to use a new or modified fiber for a specific end product? We refer here to the difficulties in scaling up the volume of production from sample yardages to commercial production, particularly under pressure of early deliveries. I don't think, in view of what has been said this morning and this afternoon, that we have to indicate what the source of this pressure for early deliveries may be.

MR. ASNIP: As we all know, these problems are multitudinous. I suppose each one of us in this field could write volumes with regard to the problems that are encountered in bringing into volume production new products from new fibers. Therefore, it is only possible to outline a few of them, and not necessarily in the order of their importance:

We must, of course, know that the fiber we receive in the plant is that which the fiber producer says he has sent us; that it has those mechanical, physical characteristics that can be tested; and I believe it is necessary to start by finding out if you do have these

things, before you do go lickety-split into production.

Secondly, many plants are faced with the problem of running more than one fiber. Therefore the problem of identification in this matter immediately comes into focus as one that must be solved before you go into mass production. You must also have obtained from your previous pilot plant production specific knowledge of the fiber's characteristics as revealed in processing insofar as they affect machine settings and the machines themselves as well as the processing, and such factors as lubricants. Thus you will have a completely formulated plan before you go into production, so that at least you have the best chance of success in each of the processes that are required to bring out the finished product.

The finish of the fiber is very pertinent, and this must be determined prior to putting it into mass production, and whether or not it is consistent; and also what aids to processing you need. These elements must be thoroughly determined. You must also know about lubricants and anti-statics as you get into slashing. These must be predetermined because, at this point, you can't afford to go into mass production on trial and error.

As we get into the finishing problems, there must be known techniques to develop the favorable characteristics, which you have planned, into the end product. These are the aesthetics, the hand, coloration; and going into massive production makes it necessary that these be determined beforehand. I think if I could impress upon all of our minds the needs for a satisfactory program for reaching the objective of the finished product before you go into massive production, that this would be the best word that I could leave with you.

MODERATOR BACKER: A quick comment from Mr. Shipman and then Mr. Thal.

MR. SHIPMAN: If I may reiterate, we are thinking here of an end product, a case where we are trying to adapt a new fiber to a particular fabric. Now, one of the best ways that I know to find out how much we ought to assume is to try to substitute or put a new fiber into a fabric that we have been producing. We find very quickly that the rules which apply to the fabric we were running no longer apply. We also find that our sample equipment doesn't necessarily duplicate what we will have. This is a very difficult thing to do.

We and many others have tried for years to find sample equipment or devise sample equipment which will take care of our needs in scaling up. This applies primarily or more importantly, to such fibers as nylons and polyesters. It does not necessarily apply to cellulosic fibers since we can often use a different producer's yarn or a different cellulosic fiber without any serious changes in processing.

MR. THAL: The greatest difficulty in developing a new fabric is bringing it out ahead of time. Everybody seems to be in a rush; everybody wants to be the competitor; and before experimenting properly, before dyeing, knitting or finishing, a new cloth is thrown out into the market and a great deal of needed information is unknown. So that in my opinion time is of the essence. The experimental work has to be done first before the fabric is put on the market.

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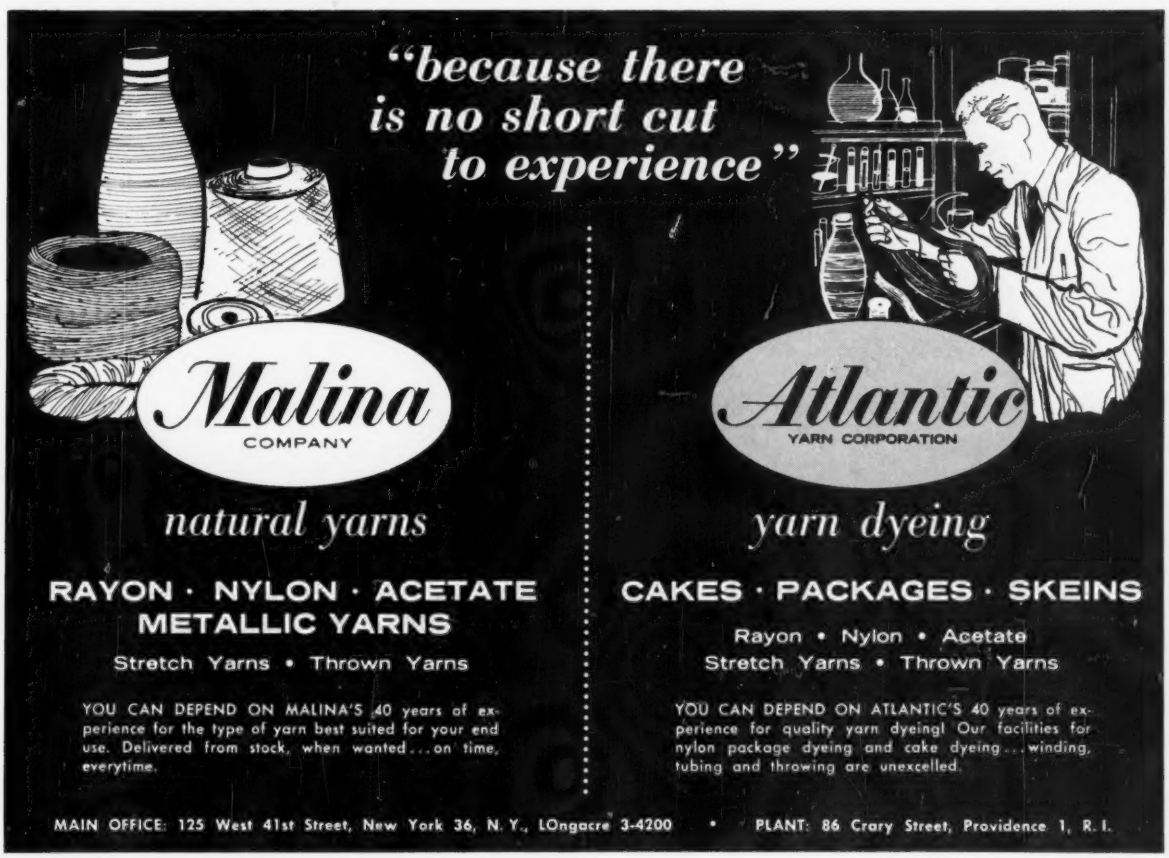
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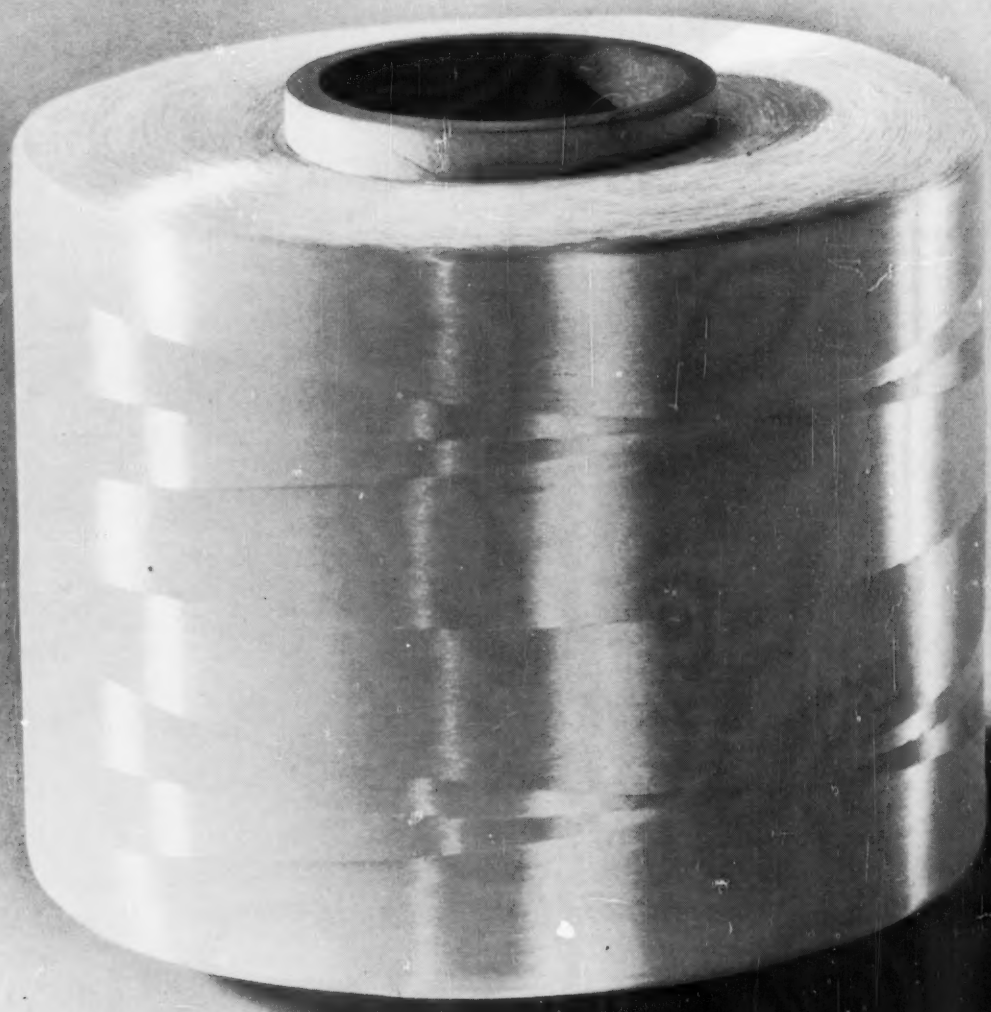

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(Continued from Page 67)

MODERATOR BACKER: The next is to Mr. Strub: Could you comment on the role of trademarks of throwsters' processes in the textile scene?

MR. STRUB: I'm particularly concerned with continuous filament yarns. Here we find that there are trademarks that are used by the yarn producers as such. There are some trademarks that are associated with the licensors of a specific process for modifying filaments, and then there are some throwsters who have their own trademarks. As a result, the actual use of the trademarks by throwsters varies considerably. One throwster may use one trademark to cover all his modified filament yarns while another, say a yarn sales organization, will simply stick to using the known trademarks on the particular process. The general use of trademarks is, of course, to count sales and aid in merchandising with buyers.

MODERATOR BACKER: I think you can see that our panel, particularly this group this afternoon, is quite relaxed and friendly. We haven't been trading blows as some of the other panels. What problems are encountered in finished knit fabrics which may have their origins in fairly young processes or in the knitting operation, and how is the responsibility for such problems determined?

MR. THAL: Basically there are two areas where these problems can arise. One is in levelness of dyeing. We have found many cases where the fiber producer changes merges, and rightly so, where they think they can improve a fiber. But when we get it into our plant and start dyeing the fabric and find it doesn't dye level, it causes a great deal of difficulty and may take a month or two months to get out of the woods in this case.

The second phase is the spinning, improper blending of the different components, improper mixing of the wool, improper blending of the two different deniers, improper relaxation, improper running of the Turbo Machine where temperature isn't in control.

All of these things have a bearing on getting the fabric dyed level. As far as barré is concerned, which is a horizontal stripe in the fabric, those things can be determined at an early stage and the responsibility placed where it belongs.

MR. STRUB: Again limiting my comments to the continuous filament yarns, I mentioned before that we are primarily concerned these days with modifying the usual shape of continuous filament yarns. These modifications, with perhaps one exception, involve the use of heat almost to the softening point of the yarns, along with pressure, tensions, and high twists. All of these contribute to possible changes in the dye index of the yarns.

Therefore, one of the more important ways to prevent this streaking and so forth is to be sure before the yarns are used in a multi-end knitting, that they were actually satisfactory for that end use.

MR. GRIFFIN: I think I might surprise this group a little bit. As far as the producers and mills are concerned, I don't think there is a serious problem of determining responsibility for imperfections. Of course, there are disputes, but when the two parties involved conduct a factual investigation with level heads, I think, as far as the producers and mill are concerned, there doesn't exist, industry-wise, a very serious problem. I think I can honestly say as far as our experience is concerned, that this is true.

MR. ASNIP: I think this problem, to a great extent, is one that revolves around where you sit. If you are the fiber producer, you have a certain viewpoint. If you are the spinner of the yarn, supplying for instance a knitter, you have another viewpoint. If you are the knitter of the fabric, you again have a different one; and if you are the spinner, you have a different one. So you can see the problem in determining an end difficulty in the finished product. Is it the fiber? It is the spinner? Is it the knitter? Is it the finisher? And we find each one attempts to defend his position. It's a difficult one to solve. Although it is not a large problem, I agree with Mr. Griffin, it's a nasty one when it comes up.

MODERATOR BACKER: In discovering the most practical end uses for a new or modified fiber, what steps must be taken to avoid the trial and error approach so often associated with fabric development? What can the fiber producer do to minimize fabric development problems at the mill level?

MR. SHIPMAN: Trial and error in our company is not an unknown term but we like to think of it as a last resort. The investigations that we have discussed previously include discussions with the fiber producers, the technical laboratory analyses that we have discussed, and association of the characteristics that we have determined with the fabric requirements and, finally, the manufacture of test fabrics, which are indicated by preliminary investigation.

Now, our research department then makes extensive tests on the fabrics to search out any weaknesses which might have been unpredictable. It is sometimes found that a construction can be improved or that methods of griege processing and finishing may have to be changed to give the desired effects. But these steps are taken to prevent putting a fabric on the market which is a trial and then discovering the weakness, which is an error. There are just enough elusive characteristics in the development of a fabric, such as hand, critical surface appearance to sometimes change our best-laid plans. Too many variables affect these characteristics to allow us to be 100 per cent sure of constructing them right in the first trial.

We do not believe there is any way to avoid excessive trial and error other than detailed study of fiber characteristics, and detailed association of these characteristics with our fabric in question. So I must conclude that, in spite of everything that we can do, that ultimately we can't avoid some trial and error.

MR. GRIFFIN: To begin with, the producer is just as much interested in minimizing the development problems as the mills are. As a matter of fact, we maintain pretty much the same equipment, on a small scale, as most of our customers and their customers do; and we run fibers through these operations to learn what might not be learned in the physical or chemical laboratory.

However, at this point, I think we just have to face the facts of life. Unfortunately (and I agree with Mr. Shipman) pure and simple trial and error is pretty much unavoidable. These things made on small scale frequently are not exactly the same when you get up to a production run. It is unfortunate, but, as far as I can see, it is true.

MR. ASNIP: With regard to minimizing fabric development problems at the mill level, I think the fiber producer can assist tremendously in this. Also, it is important that we come up with fabric development in the areas of desirability which may not be immediately envisioned by the fiber producer. In

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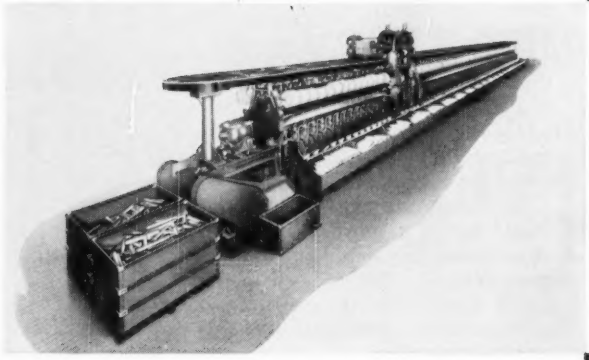

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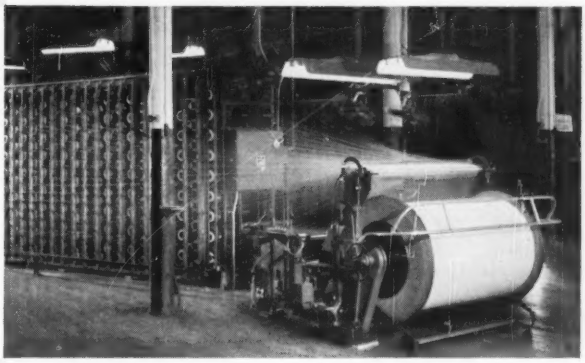

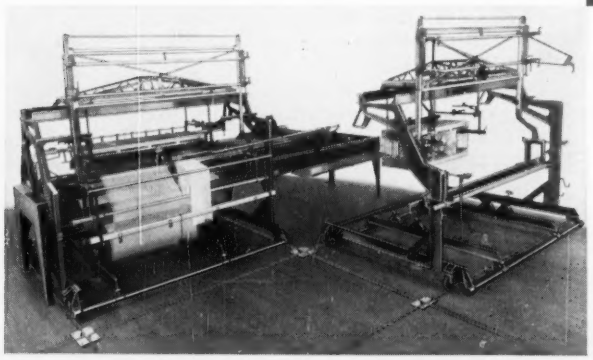

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this area we may not get the help from the fiber producer that we might expect to get, so therefore we have to use our own ingenuity and resources in order to develop the innovations, the new things, because this is what we want to get.

I guess I've answered this both ways, and that is insofar as the known product, the fiber producer can help a lot; but this should not be our goal because if all we are going to do is substitute a fiber in a known product, we wouldn't get the new fabrics we need. We have to have the innovations and the new, so it means we are going to have to do these things ourselves.

MODERATOR BACKER: What effect does the use of many different fibers have on the cost of producing the yarn or fabric, and what physical limitations exist which complicate the use of many different yarns or fibers in one manufacturing location?

MR. ASNIP: Insofar as many different fibers are in the same producing unit, this has a definite increase in cost.

MR. STRUB: Again limiting myself to the manufacturing of continuous filament modified yarns, there are many hazards that are introduced by the use of several fibers at one time. These include hazards of mixtures, increased numbers of processing lots, increased inventory costs, the growing threat of process obsolescence due to changes in markets, end uses or higher production rates.

MR. THAL: I think it is a serious mistake on the part of any mill to run too many fibers in the same plant. I think the proper way to do is to set up small units where each unit runs one fiber or two at most.

MODERATOR BACKER: Is it necessary to have controlled temperature and humidity conditions to assist in yarn processing and fabric weaving of synthetic fibers, more specifically, acrylics or polyesters? Or, conversely, do temperature and humidity sensitivities of manmade and natural fibers vary to such an extent that operating a multi-fiber mill at a fixed temperature and humidity will incur difficulties and problems?

MR. ASNIP: To answer the first part, it is definitely necessary to have controlled temperature and humidity in processing the synthetic fibers, namely, polyesters and acrylics.

The second part, do temperature and humidity sensitivities of manmade and natural fibers vary? They do. Each has its own characteristics. So there is your problem. If you are running several fibers which have different characteristics, you will be in trouble, because neither will be right.

Moderator's Summary Remarks

IN UNDERTAKING a discussion of mill operations in a program on modern fiber technology, we may assume for the moment, that considerations of new product development and merchandising have been met. We must face the pressure, indeed the need to introduce new and modified fibers into the mill with a hope for better, sometimes cheaper, but certainly more competitive products. With some resignation, we may now anticipate a multitude of problems before the mill is running smoothly, to the accompaniment of the cash register bell.

Mr. Cushman has ably summarized the problems of modern production management in mills or mill groups which handle a multitude of fibers and blends. He cites the properties which staple and filament fibers must possess to assure high efficiency in mill operations. He acknowledges the need to progress with new fibers and yarns, but he suggests a moratorium of reasonable length on new fibers to permit development of the full potential of fibers already at hand. Such a delay in the introduction of new fibers, he states, should allow the mills to do a better job in evaluating recently developed materials and in doing a better job with them.

The tone of the earlier panel discussions suggests that some will agree with Mr. Cushman. Certainly the fiber producer will disagree with the concept of a moratorium, as will many others at various stations in the textile industry complex—in sales, in product development, in merchandising.

It is interesting to note that the Mill Operations Panel for the most part, accepts the notion that adjustments in machine and plant operating conditions are necessary for effective processing of manmade fibers. Controlled temperature and humidity conditions, use of fiber finishes and lubricants, of antistatics, controlled process tensions, to name a few, are accepted as commonplace additions in the mill handling 100% manmade textiles and blends. The panel does not quarrel with the need to experiment with new fibers in adapting them to a particular mill or process.

Listening to the discussion, one has the feeling that these men maintain fairly close liaison with the technical staff of the fiber industry and expect that a good share of the local adjustments for a new fiber vis-a-vis a given mill, will be their responsibility. But they look to the fiber industry for continued assistance. No doubt, they would prefer the new fiber to run through the plant like rain in a down spout; and clearly they would appreciate some relief from the pressure of new product promotion and delivery promises while the problems of full scale production are being solved.

The problems cited here and the feelings expressed provide an exciting challenge to the educator and to the researcher in the textile field. For he must look at fibers as generic species, not as trade or natural names, each to be studied empirically in full scale production. He should search out the critical fiber properties, studying them as they interact with process and machine actions and with textile structures. Studies of the nature can be undertaken in the physics laboratory, in the pilot plant, or on the basis of data available from large scale plant trials. Given time and manpower we can learn as much from our failures as we do from our successes. Judging from the comments of today's panelists we in the textile field must be a knowledgeable group.

PROGRESS TODAY SHAPES A BRIGHTER TOMORROW IN TEXTILES
By facing and evaluating their problems today, textile producers already have begun to mold the industry's exciting future. Solutions to these problems, born in the laboratory where the textile fibers and finishes of tomorrow are first produced, will of themselves create new production problems.
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Summary speech by WILLIAM E. CLARK

TEXTILES and the CHALLENGE of the future

DURING TODAY'S MEETINGS we have heard some of the finest specialists in the broad areas of the textile business. They have told us about current activities in our industry, and have pointed up the many problems and the challenge that lies before us in the development of synthetic fibers and their application in various end products. During today's presentations it has become increasingly obvious that the rapid invention and growth of new fibers has come about faster than could be assimilated by the spinners, weavers, dyers, converters, retailers and consumers.

The future opportunity of the textile industry lies in the satisfactory solution of the problems outlined here today. I want to talk about this opportunity in the light of our nation's economy and the textile industry's position in the economy. I will also offer a modest bit of forecasting.

How are we going to meet the challenge? We have a continuing obligation to assure the proper evaluation and selection of appropriate end use markets for the various synthetic fibers. The fiber manufacturer, mill manufacturer, finisher, converter, technologist and retailer—all must fully appreciate this problem and strive to give the ultimate customer full value for his money. As we do so, we will increase our volume and profits.

A major consideration will be the general business climate in which we will work. Our new administration in Washington may have an immediate and important psychological effect, but we must recognize that any major beneficial changes in the economy are not likely to occur until the latter part of this year.

Barring a national emergency the general business atmosphere in 1961 should be similar to that of 1960. Most economists agree that the downturn experienced in the latter part of 1960 will continue through the first half of 1961. After that we should see sufficient improvement to bring the total activity up to the same annual level as 1960.

Some economists forecast a Gross National Product of 512 billion dollars in 1961. I believe it will remain at about the 1960 level of 502 billion dollars.

There are some encouraging factors in projecting business improvement for the latter part of 1961. The new administration will undertake a number of efforts to strengthen the economy, particularly in view of the close election. We will see Mr. Kennedy's "task force" efforts come to the fore.

We may expect a new look at the problems involved in import rules, efforts to relieve depressed areas of the country, and shifts in the agricultural program—all of these and more will influence the general economic climate.

What about the textile industry in this changing picture? The development of new fibers has presented our industry with a challenge of major proportions, and a golden opportunity for progress. In recent years we have seen major changes in our every-day living. Improvements in transportation, the move to suburbia—even changes in weather—have led to marked shifts in the demand for textile products. Lighter outer garments, casual "wash and wear" clothing, new decorator materials and new kinds of carpeting have been among the factors that led us to seek the best kinds of fibers for new tasks.

Since the end of World War II, our industry had also had the problem of competing for its share of consumer dollars with other producers of durable consumer goods—automobiles, new homes, appliances, television sets, high fidelity radios and phonographs—and with the service industries— travel, education, medical care, beauty aids and entertainment.

We have lost ground in this competition for the attention and dollars of the buyer. Families in higher income brackets, today, spend proportionately less for textiles and clothing than did similar families

William E. Clark

He is vice president and general manager, textile division, United States Rubber Co., and chairman of the board, Textile Research Institute.

in 1950. Changes in consumer spending have gone against us at a time when they should have stimulated sales. We must also acknowledge that foreign textiles have hit certain segments of our industry with damaging effects. This is a major element in today's thinking.

I recognize the attractions of these other goods and services, but I am convinced that our industry could have made a stronger effort. Whatever our earlier sins of omission in research, sales and promotion, the challenge now must be understood and met.

We must recognize that manmade fibers do not offer a magic that will cure temporary ills of the textile industry and automatically increase sales and profits. However, there are good opportunities. Two illustrations of success with new fibers show us what can be done.

Tufted Carpet Boom

Among the phenomena of recent years have been the growth of the tufted broadloom floor covering industry and the increase in sweater sales. Tufted broadloom sales jumped from 6.1 million square yards ten years ago to 96 million square yards in 1959. Woven carpeting sales remained level, with a total of about 57.8 million square yards in 1951, and 1959 sales of 58.5 million square yards. From these figures we can see that the growth of tufted broadloom sales represented considerable new business, and it was not entirely at the expense of woven carpeting. We must remember, however, that wovens have been hurt by foreign imports.

Although some errors in fiber selection were made in the early post-war years, it is my belief that the newer manmade fibers have contributed greatly to product upgrading, increased volume and consumer acceptance of tufted carpeting. Research and development have helped our fiber producers, spinners, manufacturers and processors in great measure. Good examples can be found in the textured continuous filaments and textured spun face yarns for carpeting.

On a subject possibly closer to each of us—sweaters—we find that shipments by the knitting industry rose 100 per cent between 1951 and 1959. A decade ago these shipments totalled 7.7 million dozen. In 1959 the volume reached 15.2 million dozen. Natural fibers were principally used in 1951, but newer manmade synthetics accounted for more than 50 per cent of 1959 sales.

As in these two cases, I cannot over-emphasize the rewards inherent in the proper evaluation of new manmade fibers, from their chemical composition through to proposed end uses. Any fiber can come to grief and be self-defeating because of a single deficiency. To illustrate, let's consider a partial list of the more important characteristics to be considered: dyeability, strength in grams per denier, heat and abrasion and ultra-violet degradation resistance, resiliency, chemical inertness, specific gravity, and thermoplastic qualities.

As a further illustration, let's look at manufacturing—we must evaluate the processing characteristics of the fiber and solve problems that arise during processing. Marketing programs must consider cost-price relationships with existing products, and to wearability or durability, as the case may be, and above all, the suitability of the fiber for its planned use in the end product. * * * *

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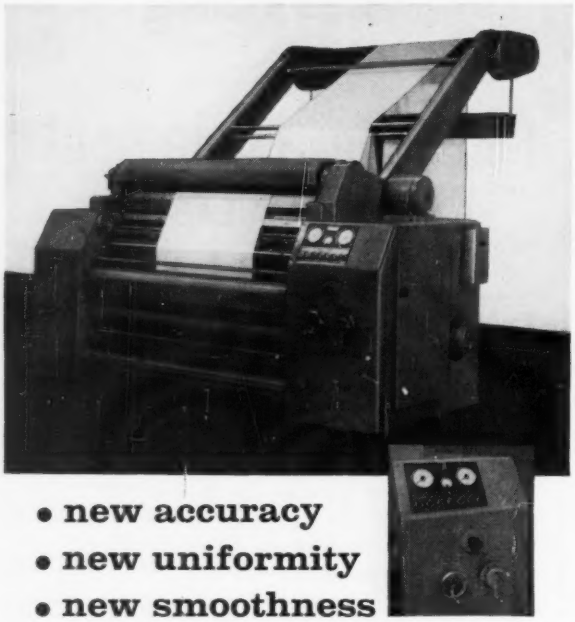

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financial, economic and military circumstance, will bring positive changes. To achieve such objectives and to utilize the maximum capacity of this country, important steps will have to be taken.

One. Tax reforms are needed.

Two. Featherbedding union practices must be eliminated.

Three. Money must be available for investment.

Four. Research and development must be encouraged and expanded.

Five. We must reverse the unfavorable balance of trade and halt the gold outflow.

Each of these five efforts will be sizeable. The new administration will try everything possible to bring about expansion of our economy. I'm sure this will be well in advance of the Presidential election.

The second important business change will develop from our population growth. This will effect us quickly, probably within five years.

Except for cotton, there will probably be an insufficient quantity of natural fibers, particularly animal types, to meet the demand. To meet this shortage, we will need increased quantities of non-cellulosic fibers to fill industrial, household and apparel needs. This can be a tremendous lift to the textile industry and the general economy, but it will require research to be sure that the production increase is geared to meet the population growth. We will have to consider age groupings in such planning.

Research Expenditures Rise

Underlying these factors are major technological advances in almost all industries. Research expenditures broke away from old trends in 1955, and shot straight up. Research people say that it will take five years for these initial expenditures to be reflected in commercial applications. One of the major companies in this field says that at least 60 major technological revolutions are in sight. With research expenditures continuing to follow the new trend, most people in this field are extremely optimistic about the business growth that can be expected.

Many small and medium-sized companies cannot afford much money to seek new products and systems. It is imperative, however, that every company, regardless of size, keep informed of research developments and spend enough money to be sure that every new item is considered for use in improving sales and profits. In many cases, only a small budget for research and development is needed to modify or commercialize new products or systems to a company's advantage.

We at United States Rubber look to the future with confidence. In 1961 the company will spend more than 53 million dollars to intensify its research and development efforts, and to modernize and expand its manufacturing facilities both here and abroad. The Textile Division will contribute substantially to the growth of our company and the textile industry.

New synthetic fibers have played an extremely important role in the past at United States Rubber, and will continue to do so in the future.

In closing, let me point out that Mr. Khrushchev has been quoted as saying that time is on the side of the Soviet economy. I disagree. We have a great technological advantage. Time is on *our* side, and if we utilize this time properly, we can help bring to our industry and our nation a security and prosperity that has never before been conceivable. ■

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The objectives of the AATT are to increase the proficiency and stature of textile technologists; to encourage in the broadest and most liberal manner the advancement of textile technology in all its branches; to promote interchange of professional knowledge among members of the association and between the association and other technical societies, associations and organizations; to stimulate fraternal esprit among technologists; to provide means for the diffusion of the knowledge of textile technology; and to consider the establishment and promulgation of standards.

Illustrative of the high regard textile management has for the aims of the association and indicative of the significance of the subjects considered, most man-made fibers brought to the American market were first introduced at meetings of the AATT.

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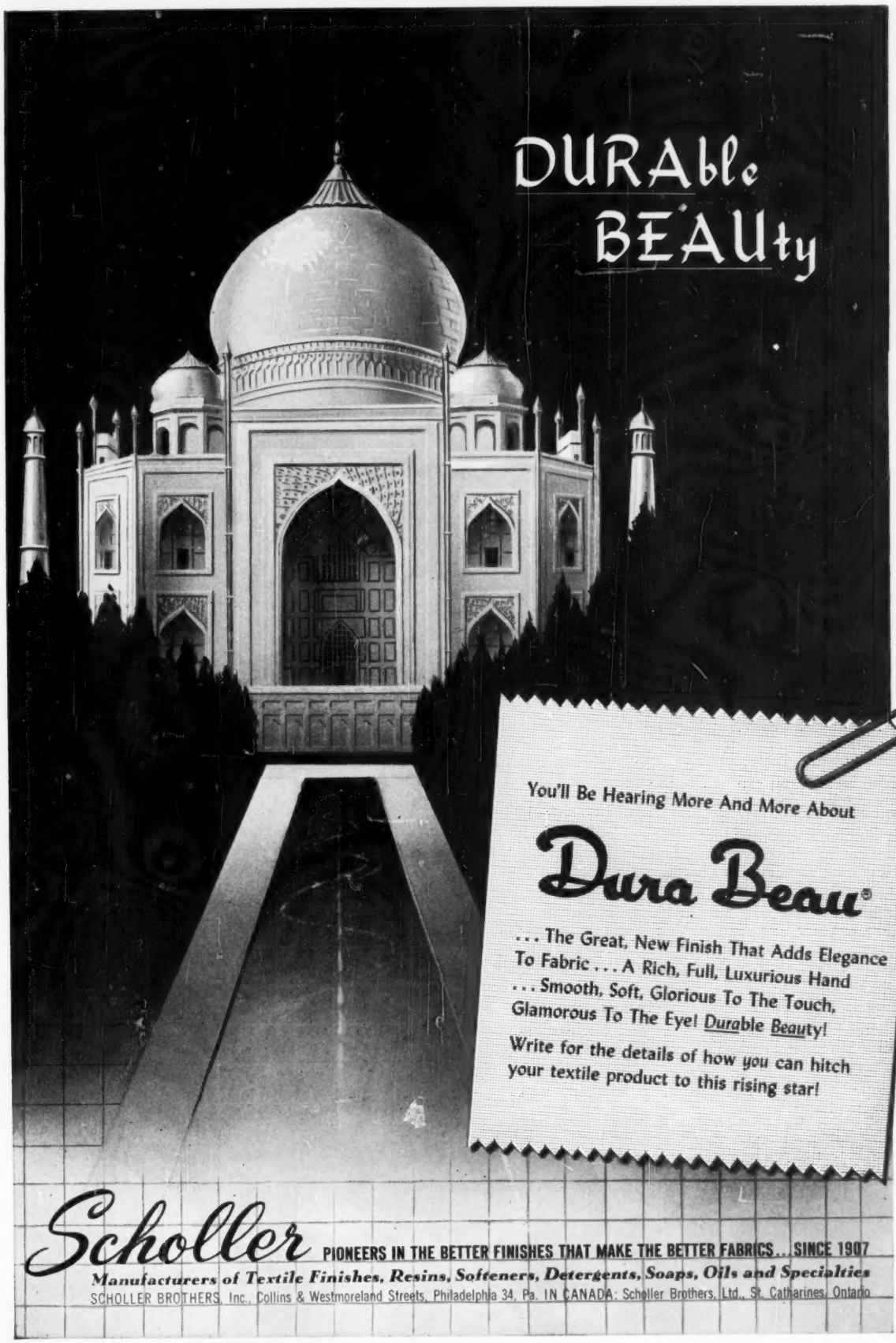
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